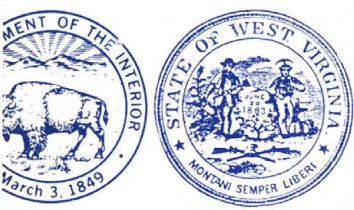
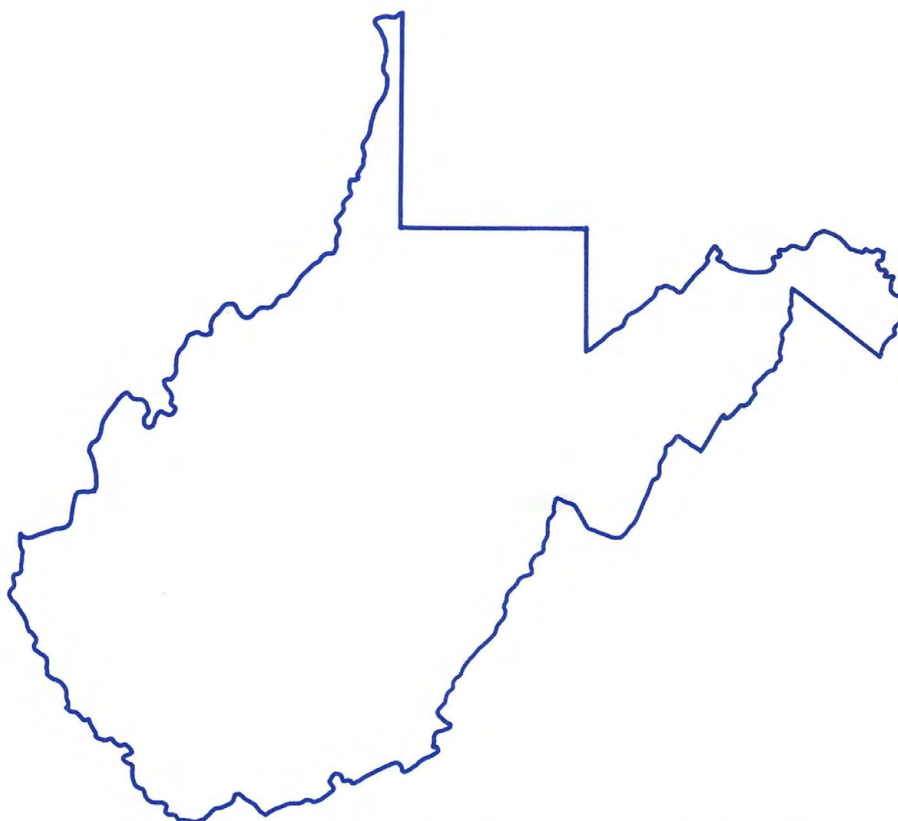
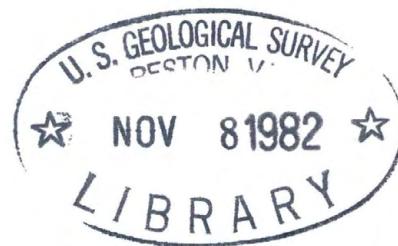


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WEST VIRGINIA
1981



Water Resources Data West Virginia Water Year 1981



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-81-1
Prepared in cooperation with the State of West Virginia
and with other agencies

CALENDAR FOR WATER YEAR 1981

1980

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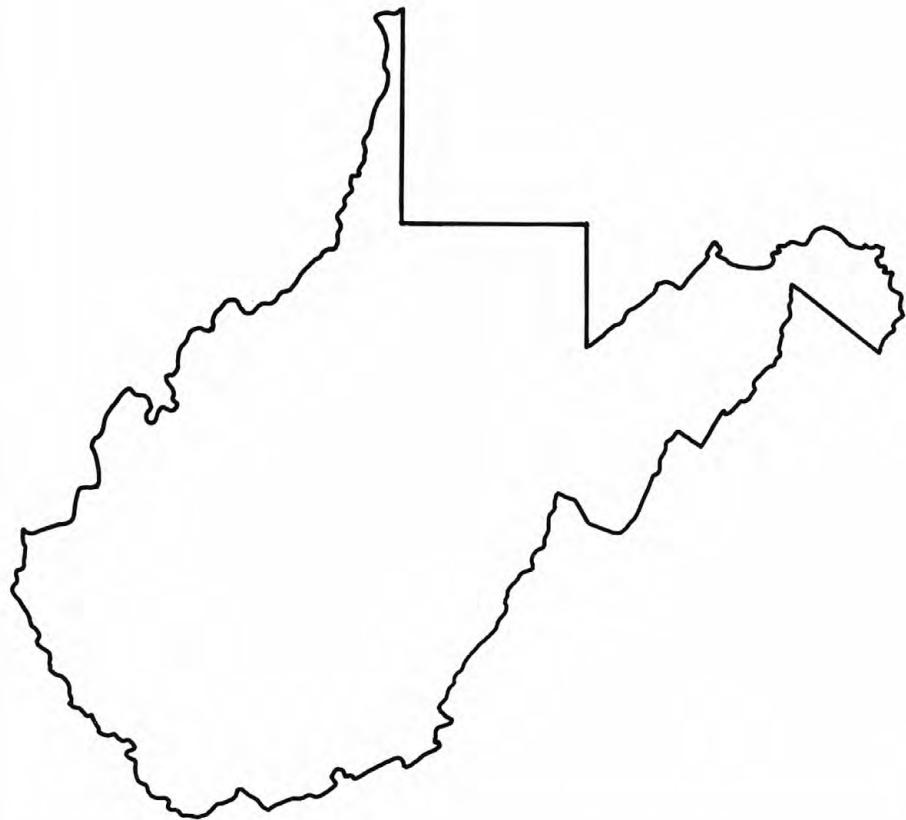
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Water Resources Data West Virginia Water Year 1981



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-81-1
Prepared in cooperation with the State of West Virginia
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in West Virginia write to
District Chief, Water Resources Division
U.S. Geological Survey
3416 Federal Building
Charleston, West Virginia 25301

1982

PREFACE

This report was prepared by personnel of the West Virginia district of the Water Resources Division of the U.S. Geological Survey under the supervision of D. H. Appel, District Chief, and F. T. Schaefer, Acting Regional Hydrologist, Northeastern Region. It was done in cooperation with the State of West Virginia and with other agencies.

This report is one of a series issued by State. General direction for the series is by Philip Cohen, Chief Hydrologist, U.S. Geological Survey, and J. E. Biesecker, Assistant Chief Hydrologist for Scientific Publications and Data Management.

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WATER RESOURCES DATA FOR WEST VIRGINIA, 1981

INTRODUCTION

Water resources data for the 1981 water year for West Virginia consist of records of stage, discharge, and water quality of streams and springs; stage and contents of lakes and reservoirs; and water levels of ground water. This report contains discharge records for 120 gaging stations; stage only records for 8 gaging stations; stage and contents for 8 lakes and reservoirs; contents for 1 reservoir; change in contents for 1 reservoir; water quality for 103 gaging stations; and water levels for 35 observation wells. Also included are 2 crest-stage partial-record stations and 1 low-flow partial record station. Locations of these sites are shown on figures 2 and 3. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in West Virginia.

Records of discharge or stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Va. 22202.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report WV-81-1." Water-Data reports are for sale by the National Technical Information Service, U. S. Department of Commerce, Springfield, Virginia, 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the district chief at the address given on the back of the title page or by telephone (304) 343-6181, ext. 310.

COOPERATION

The U.S. Geological Survey and organizations of the State of West Virginia have had cooperative agreements for the systematic collection of streamflow records since 1895, for ground-water levels since 1941, and for water-quality records since 1969. Organizations that assisted in collecting data through cooperative agreement with the survey are:

West Virginia Department of Natural Resources, D. C. Callaghan, Director, through
Division of Water Resources, D. W. Robinson, Chief.

West Virginia State Department of Highways, C. L. Miller, Commissioner.

West Virginia Geological and Economic Survey, R. B. Erwin, Director.

Morgantown Water Commission, T. E. Urquhart, Manager.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, U.S. Soil Conservation Service, and U.S. Fish and Wildlife Service.

Assistance was also furnished by the National Weather Service of the U.S. Department of Commerce.

The following organizations aided in collecting records:

Appalachian Power Company and Monongahela Power Company.

Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow for the year was slightly below normal throughout the State. Figures 4 and 4a graphically describe streamflow conditions in month intervals for four sites in different geographical regions.

October and November streamflow was generally normal throughout the State.

January, February, and March streamflow was below normal throughout the State. Temperatures were near normal, with two major freezing trends; the first was from early to mid-January and the second early in February. Most streams had some ice affects; several mountain streams had severe ice jams during early February.

April streamflow was slightly below normal, with the exception of the southern part of the State, which was near normal.

May and June streamflow was above normal throughout the State. Precipitation was well above normal throughout May until mid-June. The central and southern parts of the State had floods. Headwaters of the Gauley River basin had approximately 50-year peak discharges.

July, August, and September streamflow was near normal except for the northern part of the State, which had below normal flows during August.

Surface-water quality was near the long-term mean for most dissolved constituents during October, November, and December. Specific conductance at Kanawha River main-stem sites ranged from 175 to 350 $\mu\text{mho/cm}$. Conductance at most sites in the Gauley River basin ranged from 20 to 75 $\mu\text{mho/cm}$. Conductance in the Little Kanawha River basin was more variable, ranging from less than 100 $\mu\text{mho/cm}$ to about 300 $\mu\text{mho/cm}$.

During January, February, and March, surface-water quality at most sites was near the seasonal mean for most constituents. Water temperature ranged from 0°C to 8°C at most sites and generally was slightly lower in mountainous and northern areas. Specific conductance in the Kanawha River at Winfield ranged from 93 to 310 $\mu\text{mho/cm}$ during this period.

Increased streamflow in April, May, and June was generally accompanied by lesser concentrations of dissolved chemical constituents at most sites. For example, the dissolved-solids concentration in the Little Kanawha River at Palestine was 167 mg/L on March 24, compared with 97 mg/L on May 12, reflecting generally increased streamflow during May.

Most dissolved chemical constituents increased in concentration during July, August, and September because of decreased streamflow. Most dissolved constituents were at or near the yearly maximum value during this period. For example, the yearly dissolved-solids concentration in the Kanawha River at Winfield (184 mg/L), was at a maximum on July 31.

Ground-water levels were generally above normal in the northwestern half of the State and below normal in southeastern half, including the eastern panhandle.

This was attributable to precipitation, which was near normal over most of the State. However, drought persisted from December through May in most southeastern counties and the eastern panhandle. Precipitation gradually increased to normal by mid-year in the drought area, and many ground-water levels here peaked in June.

The index well in Gilmer County, near the center of the State and west of the drought area, reached record high levels at the end of both May and June. Graphical illustrations of water levels for three observation wells are shown in figure 5.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting English units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet, or about 326,000 gallons, or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C $\pm$ 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C $\pm$ 0.2°C on M-FC medium (nutrient medium for bacteria growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C $\pm$ 1.0°C on M-enterococcus medium (nutrient medium for bacteria growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material: See Bottom material.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Bottom material (continued)

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined.

Cells/volume refers to the number of cells of any organisms which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined values may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT³/S, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (UG/L , $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L , mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of sediment also is expressed in mg/L , and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Not detected (ND) means that the substance was analyzed for but not detected.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.0	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

The particle-size distribution given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass or volume.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells/mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cell/mL of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [$\text{mg C}/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes and $\text{mg C}/(\text{m}^3 \cdot \text{time})$] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [$\text{mg O}_2/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes and $\text{mg O}_2/(\text{m}^3 \cdot \text{time})$] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and causes of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or by volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Sediment (continued)

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45 micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata is the following:

Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexagenia
Species.....Hexagenia limbata

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituents in the sample.)

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge in ft^3/s , times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State and annual basic-data reports published since 1975.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published prior to the 1975 water year.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-stations records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 03041000, which appears just to the left of the station name, includes the 2-digit part number "03" plus the 6-digit downstream order number "041000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1 below.

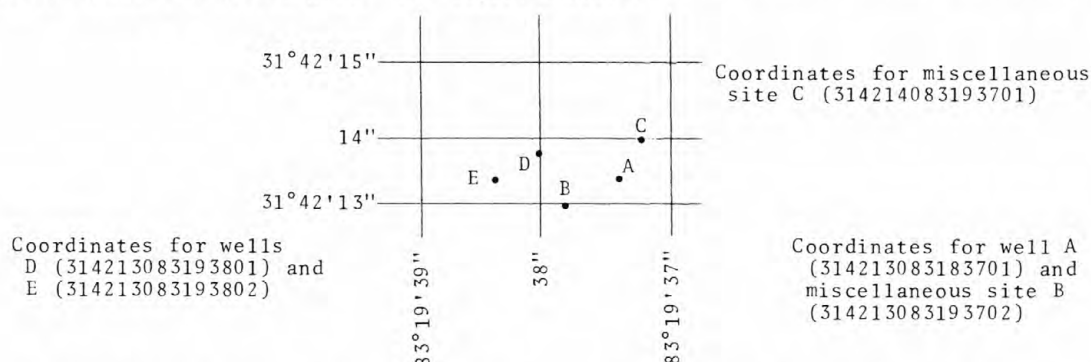


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dam or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964 to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use; the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in the section, "DEFINITION OF TERMS."

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation, or if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as gage-height records and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface-water samples for analyses are usually collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream order sequence.

The descriptive heading for water-quality records give the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diel temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharge.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figure 1.

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land surface datum is a datum plane that is approximately at land surface at each well; National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based. If known, the altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlike, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

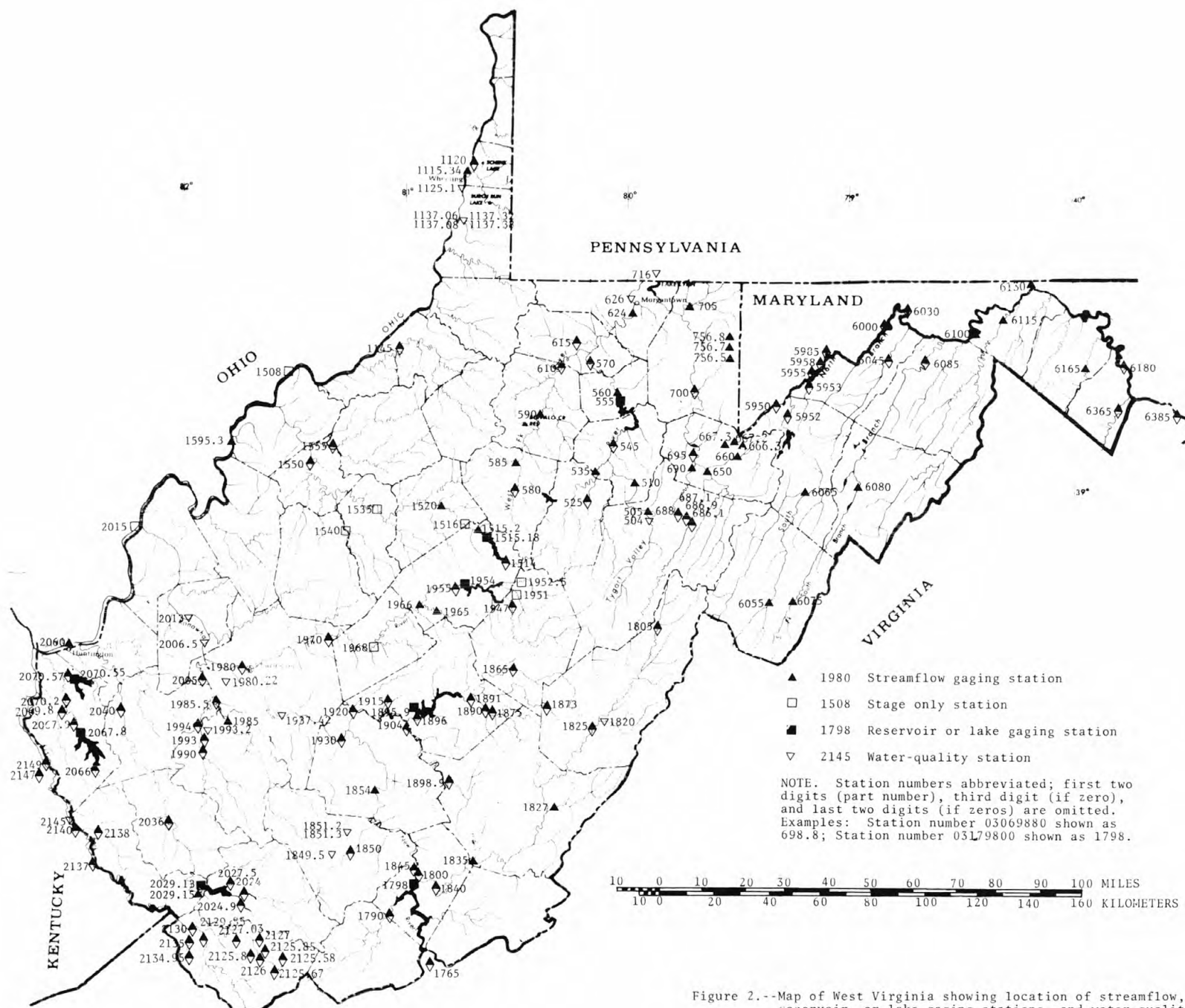


Figure 2.--Map of West Virginia showing location of streamflow, reservoir, or lake gaging stations, and water-quality stations.

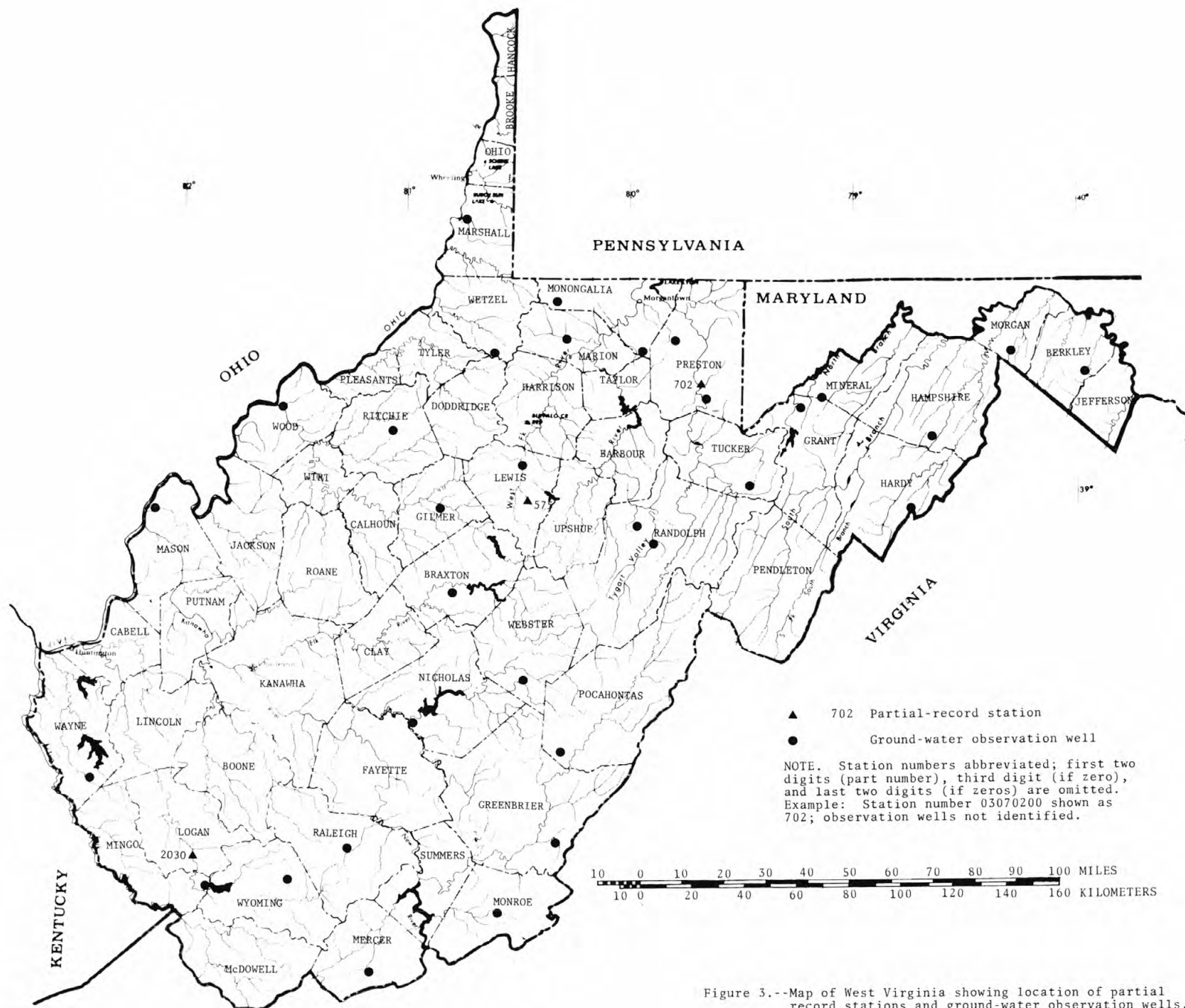


Figure 3.--Map of West Virginia showing location of partial record stations and ground-water observation wells.

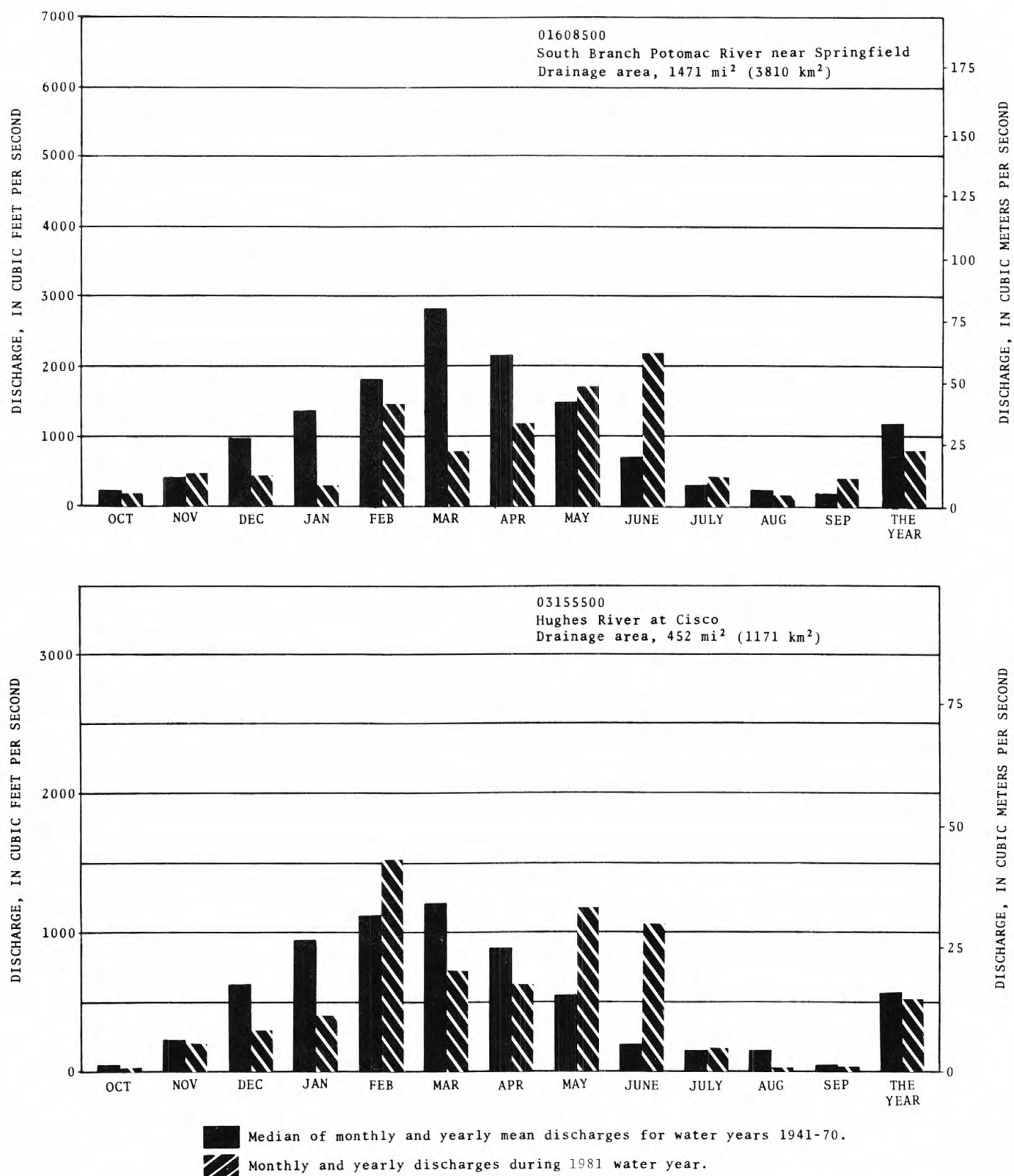


Figure 4.--Discharge at the South Branch Potomac River and the Hughes River index gaging stations during the 1981 water year compared to median discharge for the period 1941-70.

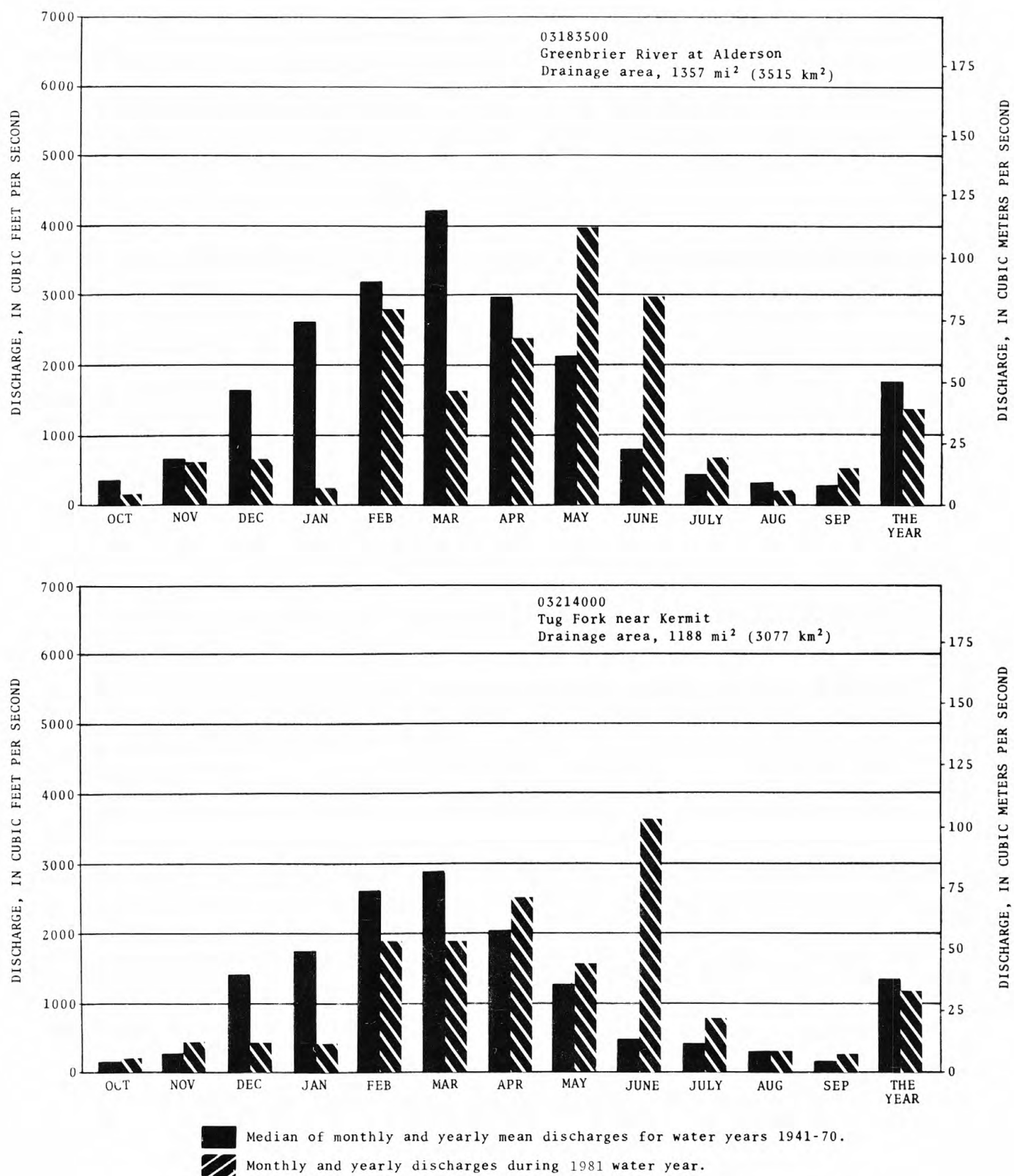


Figure 4a.--Discharge at the Greenbrier River and the Tug Fork River index gaging stations during the 1981 water year compared to median discharge for the period 1941-70.

POTOMAC RIVER BASIN

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01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi (0.5 km) southeast of Steyer, 0.4 mi (0.6 km) downstream from Steyer Run, 2.0 mi (3.2 km) northeast of Gorman, and at mile 81.8 (131.6 km).

DRAINAGE AREA.--73.0 mi² (189.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft (693.728 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 174 ft³/s (4.928 m³/s), 32.37 in/yr (822 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s (195 m³/s) July 3, 1978, gage height, 10.30 ft (3.139 m), from rating curve extended above 3,000 ft³/s (85.0 m³/s) on basis of slope-area measurement of peak flow; minimum discharge, 2.9 ft³/s (0.082 m³/s) Sept. 10, 1965, gage height, 2.03 ft (0.619 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft (3.96 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 13	0130	2760 78.2	6.80 2.073	June 14	1215	*2910 82.4	6.95 2.118

Minimum discharge, 8.7 ft³/s (0.25 m³/s) Oct. 17, 18, 24, 25, gage height, 2.16 ft (0.658 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	42	199	76	70	590	157	544	338	112	40	32
2	18	35	376	63	270	346	155	461	291	172	37	190
3	20	30	439	52	220	270	129	321	313	109	40	281
4	20	35	260	43	160	222	132	256	643	90	43	534
5	20	56	217	39	140	216	108	215	668	83	37	292
6	18	42	199	34	130	189	120	193	1400	88	45	136
7	20	34	196	39	120	160	130	177	741	73	60	93
8	16	32	190	48	110	143	123	145	412	59	54	131
9	16	42	319	60	100	136	124	126	321	53	38	148
10	16	105	394	50	120	126	123	112	619	47	30	90
11	25	61	267	42	377	123	336	131	403	45	28	72
12	19	49	220	37	309	123	712	127	246	42	28	62
13	15	42	196	33	243	184	1420	106	238	52	26	54
14	16	38	159	30	211	219	612	93	1760	72	25	51
15	14	33	146	34	180	174	434	213	726	43	25	81
16	12	41	136	40	200	218	310	169	396	35	84	281
17	10	48	115	36	250	190	297	139	293	34	43	142
18	9.1	348	104	33	350	183	331	136	220	29	28	98
19	14	156	97	30	450	155	253	615	230	30	25	81
20	13	108	78	32	600	141	326	493	674	43	23	72
21	14	98	73	33	444	135	245	300	393	51	23	68
22	16	81	65	35	560	119	207	224	406	37	21	60
23	12	78	60	37	549	127	230	182	250	30	21	56
24	9.0	1080	56	35	466	157	374	143	198	120	20	47
25	147	778	53	34	334	145	367	117	283	70	20	38
26	102	376	50	50	263	111	279	110	265	43	20	37
27	49	270	48	76	217	525	472	128	167	62	20	37
28	90	223	54	130	363	298	344	197	138	81	20	35
29	118	187	64	100	---	310	289	236	117	148	26	34
30	68	159	75	80	---	336	263	246	103	72	18	30
31	51	---	92	70	---	256	---	561	---	54	20	---
TOTAL	1010.1	4707	4997	1531	8206	6627	9402	7216	13252	2079	988	3363
MEAN	32.6	157	161	49.4	293	214	313	233	442	67.1	31.9	112
MAX	147	1040	439	130	844	590	1420	615	1760	172	84	534
MIN	9.0	30	48	30	70	111	108	93	103	29	18	30
CFSM	.45	2.15	2.21	.68	4.01	2.93	4.29	3.19	6.06	.92	.44	1.53
IN.	.51	2.40	2.55	.78	4.18	3.38	4.79	3.68	6.75	1.06	.50	1.71

CAL YR 1980	TOTAL	64449.1	MEAN	176	MAX	1300	MIN	9.0	CFSM	2.41	IN	32.44
WTR YR 1981	TOTAL	63374.1	MEAN	174	MAX	1760	MIN	9.0	CFSM	2.39	IN	32.30

POTOMAC RIVER BASIN

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979-80 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 24...	1330	8.7	1220	4.7	14.0	7.9	10.4	620	620	.3	10	230
NOV 19...	1530	136	228	5.1	-5.0	1.8	12.6	92	90	.3	15	30
DEC 17...	1000	115	333	4.8	-7.0	.5	13.2	140	140	.2	8.3	48
MAR 13...	0900	134	363	4.8	10.0	2.5	11.9	--	--	.2	7.5	--
APR 07...	1215	134	223	4.7	16.0	7.2	11.6	120	120	.2	1.9	40
JUN 18...	1200	226	283	4.1	23.0	16.2	--	--	--	--	12	--
JUL 22...	1130	37	700	5.7	20.0	20.5	8.5	--	--	.2	6.7	--
AUG 25...	1530	20	1580	4.9	25.0	21.8	8.5	940	930	.4	18	340

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM 40 DIS- SOLVED (PCI/L AS K40)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 24...	12	9.8	3	.2	3.0	--	5	680	3.3	.3	6.9	912
NOV 19...	4.1	2.7	6	.1	1.2	--	--	90	3.7	.1	5.0	147
DEC 17...	5.3	3.3	5	.1	.1	--	2	150	2.4	.1	5.8	242
MAR 13...	--	--	--	--	--	--	2	160	--	--	--	283
APR 07...	4.4	2.8	5	.1	1.0	.70	2	100	4.0	<.1	6.0	178
JUN 18...	--	--	--	--	--	--	0	120	--	--	--	195
JUL 22...	--	--	--	--	--	--	3	350	--	--	--	584
AUG 25...	21	6.4	1	.1	3.1	2.3	0	940	4.2	.3	6.9	1440

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 24...	951	1.2	21.4	.75	560	330	230	710	30	680	1	.02
NOV 19...	139	.20	54.0	--	1500	670	830	340	0	350	5	1.8
DEC 17...	217	.33	75.1	--	1500	800	700	320	0	320	--	--
MAR 13...	--	.38	102	--	2200	1500	660	320	0	330	--	--
APR 07...	160	.24	64.4	--	1100	400	700	370	0	400	--	--
JUN 18...	--	.27	119	--	2000	1600	440	330	0	330	--	--
JUL 22...	--	.79	58.3	--	350	290	60	530	90	440	--	--
AUG 25...	1310	2.0	77.8	.69	410	180	230	490	0	920	--	--

POTOMAC RIVER BASIN

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01595200 STONY RIVER NEAR MT. STORM, WV

LOCATION.--Lat 39°16'10", long 79°15'45", Grant County, Hydrologic Unit 02070002, on left bank 100 ft (30 m) downstream from highway bridge on U.S. Highway 50, 1.0 mi (1.6 km) west of Mt. Storm, and at mile 6.4 (10.3 km).

DRAINAGE AREA.--48.8 mi² (126.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft (778.624 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for December and February, which are fair, and those for January, which are poor. Flow regulated by Stony River Reservoir, 14.0 mi (22.5 km) upstream from station, capacity, 1,948,000,000 gal (7.373 hm³), of which 1,681,000,000 gal (6.363 hm³) is controlled above minimum pool. Since 1963, minor regulation by Virginia Electric and Power Company dam 4.0 mi (6.4 km) upstream from station.

AVERAGE DISCHARGE.--20 years, 99.3 ft³/s (2.812 m³/s), 27.63 in/yr (702 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,340 ft³/s (151 m³/s) July 3, 1978, from rating curve extended above 2,500 ft³/s (71 m³/s), gage height, 10.34 ft (3.152 m); minimum, 1.8 ft³/s (0.051 m³/s) July 13, 1968; minimum daily, 1.9 ft³/s (0.054 m³/s) July 13, 1968; minimum gage height, 1.79 ft (0.546 m), sometime during period Oct. 3-23, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,630 ft³/s (74.5 m³/s) June 14, gage height, 7.86 ft (2.396 m); minimum, 4.1 ft³/s (0.12 m³/s), Aug. 29, 30, gage height, 1.90 ft (0.579 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	6.0	72	30	24	131	209	295	400	21	9.4	14
2	5.2	5.4	175	29	80	124	206	272	273	29	8.3	136
3	5.6	5.0	165	25	63	117	198	132	268	36	9.8	109
4	5.2	5.6	122	24	57	112	225	164	739	60	10	458
5	5.0	7.1	114	23	51	119	268	414	121	76	8.1	604
6	4.6	6.4	116	25	46	191	271	234	262	111	12	409
7	4.6	5.8	125	27	43	164	229	73	194	135	15	297
8	4.5	6.0	144	24	40	127	97	44	173	142	12	208
9	4.5	11	175	22	38	106	83	41	188	203	9.3	30
10	5.0	18	188	20	36	95	73	41	372	158	8.1	17
11	5.8	9.2	165	18	151	76	111	54	421	113	7.5	14
12	5.2	7.4	211	17	183	64	229	61	324	59	7.6	12
13	4.6	6.9	193	17	192	71	752	60	235	11	6.9	10
14	4.5	6.4	155	18	112	74	233	56	1340	12	6.1	9.2
15	4.5	6.2	91	17	95	59	216	99	268	11	6.5	13
16	4.3	7.9	75	16	123	49	198	133	148	11	17	101
17	4.3	8.2	58	15	172	38	215	67	135	11	8.2	61
18	4.6	32	50	14	202	41	229	69	122	10	6.5	53
19	5.0	17	37	13	219	36	203	226	118	9.4	6.2	50
20	4.6	12	27	13	297	37	201	200	183	9.5	6.1	55
21	4.6	12	23	15	573	36	153	195	225	12	5.2	88
22	4.5	11	25	15	511	34	85	161	341	10	4.8	71
23	4.6	11	30	14	288	35	80	142	46	8.9	4.7	59
24	4.6	335	31	13	277	41	100	123	25	12	4.6	35
25	33	206	29	13	274	46	99	153	62	12	4.7	19
26	22	142	24	22	661	52	85	138	54	10	4.7	17
27	9.5	211	27	43	52	324	114	76	26	13	4.4	17
28	12	178	31	36	78	584	97	126	21	15	4.8	16
29	14	153	34	26	---	134	93	130	17	23	4.5	14
30	8.2	407	34	22	---	200	96	186	15	14	4.4	14
31	6.4	---	31	21	---	207	---	224	---	11	6.3	---
TOTAL	220.2	1855.5	2777	647	4938	3524	5448	4389	7116	1368.8	233.7	3010.2
MEAN	7.10	61.9	89.6	20.9	176	114	182	142	237	44.2	7.54	100
MAX	33	407	211	43	661	584	752	414	1340	203	17	604
MIN	4.3	5.0	23	13	24	34	73	41	15	8.9	4.4	9.2
(†)	1246	1224	1175	1192	1219	1469	1469	1533	1403	1369	1393	1345

CAL YR 1980 TOTAL 37036.7 MEAN 101 MAX 1060 MIN 4.3 CFSM 2.07 IN 28.23
WTR YR 1981 TOTAL 35527.4 MEAN 97.3 MAX 1340 MIN 4.3 CFSM 1.99 IN 27.08

(†) Month-end contents, in millions of gallons, in Stony River Reservoir, furnished by West Virginia Pulp and Paper Co.

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1961 to March 1974, September 1974 to current year.

INSTRUMENTATION.--Temperature recorder since December 1961.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 27°C July 1, Aug. 22, 23, 1968; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.0°C Sept. 5-8; minimum, 1.0°C Jan. 25-29, Feb. 13, 14, Mar. 18-22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT										
27...	0930	9.7	414	4.6	12.5	11.7	140	.7	38	9.9
NOV										
04...	1600	6.3	580	4.7	10.0	--	--	--	--	--
19...	1245	16	313	4.9	.5	13.0	110	.4	30	7.4
DEC										
15...	1730	81	188	4.1	5.0	10.6	56	.3	16	3.9
16...	1340	75	210	5.2	6.0	--	--	--	--	--
FEB										
03...	1425	63	230	6.3	1.5	--	--	--	--	--
MAR										
13...	1115	60	285	4.4	5.5	11.2	--	.7	--	--
31...	1320	208	135	5.4	11.0	--	--	--	--	--
APR										
07...	1045	231	114	4.4	10.5	10.3	50	.2	16	2.5
MAY										
26...	1235	139	175	6.1	19.5	--	--	--	--	--
JUN										
18...	1330	123	207	4.2	21.0	--	--	.4	--	--
JUL										
14...	1215	14	660	4.4	21.5	--	--	--	--	--
21...	0930	13	540	3.9	19.0	--	150	1.0	44	10
22...	1345	10	605	4.0	21.0	9.0	--	1.0	--	--
AUG										
26...	1000	5.0	730	5.2	16.0	9.3	220	.3	64	14
31...	1405	5.4	700	6.5	20.0	--	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLC- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT											
27...	11	15	.4	2.3	--	180	4.7	.1	5.4	295	260
NOV											
19...	11	18	.5	1.5	--	130	6.0	.1	4.9	218	195
DEC											
15...	7.2	21	.4	1.0	2	76	2.0	.1	4.1	129	113
MAR											
13...	--	--	--	--	0	120	--	--	--	188	--
APR											
07...	2.8	11	.2	.8	2	48	2.3	.1	3.7	85	78
JUN											
18...	--	--	--	--	0	78	--	--	--	119	--
JUL											
21...	28	--	1.0	--	--	210	2.9	--	--	357	--
22...	--	--	--	--	0	210	--	--	--	405	--
AUG											
26...	54	35	1.6	2.5	3	300	4.8	.2	6.2	520	451

POTOMAC RIVER BASIN

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01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 27...	.40	7.7	.43	3100	0	3200	1800	0	1800	9	.24
NOV 19...	.30	9.4	--	4300	1800	2500	1200	0	1300	14	.60
DEC 15...	.18	28.2	--	1900	600	1300	880	70	810	--	--
MAR 13...	.26	30.5	--	11000	1300	9700	900	0	970	--	--
APR 07...	.12	53.0	--	800	220	580	740	0	820	--	--
JUN 18...	.16	39.5	--	8500	4700	3800	770	30	740	--	--
JUL 21...	.49	12.5	--	1900	1100	780	2700	0	2700	--	--
22...	.55	10.9	--	1500	560	940	2600	100	2500	--	--
AUG 26...	.71	7.0	--	270	200	70	2900	0	3000	--	--

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	15.5	13.0	9.0	8.5	7.0	6.0	3.0	2.5	1.5	1.5	5.0	5.0				
2	15.0	14.0	9.0	8.5	7.0	6.0	2.5	2.0	1.5	1.5	5.0	5.0				
3	14.0	13.0	9.0	8.5	6.0	5.0	2.0	2.0	1.5	1.5	5.0	5.0				
4	13.0	11.0	10.5	10.0	5.0	4.5	2.0	2.0	1.5	1.5	5.0	5.0				
5	11.0	10.5	10.0	8.0	5.5	5.0	2.0	1.5	1.5	1.5	5.0	5.0				
6	11.0	8.0	8.0	6.5	6.5	5.5	1.5	1.5	1.5	1.5	5.5	5.0				
7	11.0	9.5	10.0	7.0	7.0	6.5	1.5	1.5	1.5	1.5	5.5	5.5				
8	12.0	9.5	11.0	9.5	8.0	7.0	1.5	1.5	1.5	1.5	5.5	5.0				
9	13.0	12.0	11.0	9.0	8.5	8.0	1.5	1.5	1.5	1.5	5.5	5.0				
10	13.0	12.5	11.0	8.0	8.5	7.0	1.5	1.5	1.5	1.5	5.5	5.5				
11	14.0	12.0	8.0	6.0	7.0	7.0	1.5	1.5	1.5	1.5	5.5	5.0				
12	12.0	10.0	7.0	5.0	7.0	7.0	1.5	1.5	1.5	1.5	5.0	5.0				
13	10.0	9.0	7.0	5.0	7.0	7.0	1.5	1.5	1.5	1.0	5.0	5.0				
14	9.0	8.0	7.0	6.0	7.0	6.0	1.5	1.5	2.5	1.0	5.0	4.5				
15	10.0	8.0	8.0	7.0	6.0	6.0	1.5	1.5	4.0	2.5	4.5	3.5				
16	11.0	9.0	8.0	7.0	6.0	6.0	1.5	1.5	4.5	3.0	3.0	3.0				
17	12.0	10.0	7.0	5.0	6.0	3.5	1.5	1.5	4.5	4.5	3.0	2.0				
18	13.5	12.0	5.0	4.0	4.0	3.0	1.5	1.5	5.0	4.5	2.0	1.0				
19	13.0	12.0	5.0	4.0	4.0	3.0	1.5	1.5	6.0	5.0	1.0	1.0				
20	12.0	10.0	5.0	4.0	3.0	2.0	1.5	1.5	6.0	5.5	1.0	1.0				
21	11.0	10.0	4.0	4.0	2.0	2.0	1.5	1.5	6.0	5.0	2.0	1.0				
22	11.0	9.5	5.0	4.0	2.0	2.0	1.5	1.5	7.0	6.0	2.0	1.0				
23	10.0	8.0	5.0	4.0	2.0	2.0	1.5	1.5	7.0	6.5	3.0	2.0				
24	8.0	8.0	7.0	5.0	2.0	2.0	1.5	1.5	7.0	6.5	3.0	3.0				
25	8.5	8.0	7.0	7.0	2.0	2.0	1.5	1.0	7.0	6.5	3.0	3.0				
26	9.5	8.5	7.5	7.0	2.0	2.0	1.0	1.0	7.0	6.0	4.0	3.0				
27	9.5	9.5	9.0	7.5	2.0	2.0	1.0	1.0	6.0	4.5	4.0	3.0				
28	10.5	9.5	10.0	9.0	2.0	2.0	1.0	1.0	5.0	4.5	10.0	3.5				
29	10.5	10.0	9.5	8.5	2.0	2.0	1.5	1.0	---	---	10.5	9.0				
30	10.0	9.5	9.0	8.5	2.5	2.0	1.5	1.5	---	---	11.0	10.5				
31	9.5	8.5	---	---	3.0	2.5	1.5	1.5	---	---	11.5	11.0				
MONTH	15.5	8.0	11.0	4.0	8.5	2.0	3.0	1.0	7.0	1.0	11.5	1.0				
DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER					
1	11.5	10.0	13.0	12.0	19.0	18.0	18.5	17.5	21.0	18.0	20.5	19.5				
2	12.0	9.5	13.0	12.0	20.0	18.0	18.0	17.5	21.0	18.5	20.0	19.5				
3	13.0	10.0	14.0	10.5	20.0	18.0	18.0	17.5	21.0	20.0	20.0	20.0				
4	14.0	12.0	16.5	12.0	20.5	18.5	18.5	18.5	22.0	20.0	25.0	20.0				
5	13.0	12.0	16.5	15.5	18.5	17.0	18.5	18.5	23.5	22.0	26.0	25.0				
6	12.0	10.0	15.5	14.5	18.5	17.5	19.5	18.5	23.0	21.0	26.0	26.0				
7	13.0	10.0	14.5	11.0	19.5	17.5	20.0	19.5	21.0	20.0	26.0	26.0				
8	14.0	10.0	14.5	9.5	20.5	17.0	20.5	20.5	23.0	20.0	26.0	23.0				
9	13.0	11.0	15.5	10.5	21.0	19.5	22.5	20.5	23.0	21.0	23.0	19.0				
10	13.5	9.0	14.5	13.5	20.5	19.5	22.5	22.0	22.5	20.0	19.0	16.0				
11	13.0	12.0	15.5	14.5	21.0	19.5	22.5	22.0	22.5	20.0	19.5	17.0				
12	13.0	12.0	15.0	11.5	22.0	20.5	22.5	22.5	22.5	21.0	20.0	18.5				
13	13.0	11.0	15.5	10.5	22.5	21.5	22.5	21.5	21.0	20.0	21.0	19.0				
14	12.0	11.0	17.5	13.5	22.5	20.5	23.0	21.5	22.0	19.0	21.0	18.0				
15	12.0	10.0	16.5	14.5	21.5	20.0	22.0	19.0	21.5	20.0	20.5	19.5				
16	13.0	10.0	14.5	13.5	22.5	20.5	21.5	20.0	21.5	20.0	19.5	18.0				
17	12.5	12.0	16.0	13.0	22.5	20.5	23.0	20.0	21.0	18.0	18.0	17.0				
18	14.0	12.5	16.0	14.0	21.5	19.0	24.0	20.0	19.0	16.0	18.0	17.0				
19	13.0	12.0	14.0	12.0	22.5	20.5	23.5	20.0	18.0	15.5	17.0	17.0				
20	13.0	10.5	16.5	13.5	21.5	20.5	24.0	22.0	20.0	16.0	17.0	16.0				
21	13.0	10.0	18.5	15.5	22.5	20.5	23.5	22.0	19.0	15.5	19.5	17.0				
22	12.0	10.5	19.5	15.5	22.5	22.0	23.0	21.0	21.0	17.0	19.5	19.0				
23	13.0	12.0	19.5	16.5	22.0	19.5	22.0	18.5	20.0	16.0	19.5	17.0				
24	13.0	10.0	20.5	17.5	20.5	18.5	21.5	19.0	21.0	17.0	17.0	15.5				
25	10.0	9.0	21.5	18.5	20.5	18.5	21.0	19.0	20.0	17.0	15.5	13.5				
26	12.0	9.0	19.0	19.0	18.5	18.5	22.5	20.0	19.0	17.0	16.5	15.0				
27	13.0	11.5	19.0	18.0	18.5	16.5	22.0	21.5	20.0	17.0	17.5	16.5				
28	15.0	12.0	18.0	17.0	18.5	16.5	23.0	20.5	20.0	18.0	17.5	15.5				
29	15.0	13.5	17.5	17.0	18.5	17.5	22.0	19.5	22.0	18.0	15.5	12.5				
30	14.0	12.0	20.0	17.0	18.5	18.5	20.5	17.0	20.5	19.0	14.5	14.0				
31	---	---	19.0	18.0	---	---	21.0	18.0	20.0	19.0	---	---				
MONTH	15.0	9.0	21.5	9.5	22.5	16.5	24.0	17.0	23.5	15.5	26.0	12.5				
YEAR	26.0	1.0														

POTOMAC RIVER BASIN

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01595300 ABRAM CREEK AT OAKMONT, WV

LOCATION.--Lat 39°22'00", long 79°10'45", Mineral County, Hydrologic Unit 02070002, on downstream side of right wingwall of highway bridge, 0.5 mi (0.8 km) east of Oakmont, 1.2 mi (1.9 km) downstream from Emory Run, 1.8 mi (2.9 km) southwest of Elk Garden, and at mile 1.9 (3.1 km).

DRAINAGE AREA.--42.6 mi² (110.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1956 to current year.

REVISED RECORDS.--WRD WV-78-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,840 ft (560.8 m), from topographic map.

REMARKS.--Water-discharge records good except those for February, which are fair, and those for October, December, and January, which are poor.

AVERAGE DISCHARGE.--25 years, 67.8 ft³/s (1,920 m³/s), 21.61 in/yr (549 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,310 ft³/s (65.4 m³/s) July 3, 1978, gage height, 8.17 ft (2.490 m), from rating curve extended above 1,200 ft³/s (34 m³/s) on basis of contracted-opening measurement at gage 9.82 ft (2.993 m); minimum, 0.2 ft³/s (0.006 m³/s) Sept. 13-19, 1959, Sept. 14-18, 1964; minimum gage height, 1.48 (0.451 m) Sept. 16, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 18, 1955, reached a stage of 9.82 ft (2.993 m), from floodmarks, discharge, 3,830 ft³/s (108 m³/s), from rating curve extended above 1,200 ft³/s (34 m³/s) on basis of contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (20 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 11	1415	915 25.9	6.01 1.832	Apr. 13	0230	*970 27.5	6.12 1.865

Minimum discharge, 2.6 ft³/s (0.074 m³/s) Aug. 25, gage height, 2.30 ft (0.701 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	8.7	66	30	65	149	90	204	131	50	8.7	21
2	6.5	8.2	121	26	129	105	87	187	160	75	7.6	92
3	6.8	7.9	145	25	53	87	70	131	160	58	9.2	102
4	6.9	8.2	79	20	46	75	62	108	238	78	11	235
5	6.9	8.7	67	19	39	78	59	92	219	48	7.6	117
6	6.3	8.2	61	20	35	69	54	89	315	46	13	46
7	6.6	7.6	56	21	33	61	46	83	226	36	20	31
8	5.6	8.2	50	19	31	54	43	66	155	31	12	33
9	5.6	8.2	67	17	29	50	41	58	131	27	8.2	42
10	8.2	13	92	16	41	50	41	54	195	24	6.1	24
11	7.8	9.9	62	15	290	52	106	84	137	21	5.3	19
12	7.0	7.9	54	13	122	51	210	81	89	18	4.8	16
13	5.8	7.6	49	13	68	73	551	60	70	18	4.4	14
14	5.8	7.3	41	14	72	93	277	54	213	20	4.3	13
15	5.4	7.1	36	14	64	66	222	87	143	15	4.3	17
16	4.8	9.5	35	13	66	71	166	72	87	13	7.1	141
17	4.4	11	31	12	97	57	145	60	67	13	5.7	61
18	5.6	24	31	11	128	58	131	59	58	11	3.9	35
19	6.3	18	29	9.8	137	53	102	282	51	11	3.8	28
20	5.7	13	22	11	201	50	141	235	81	17	3.4	24
21	5.5	15	20	12	239	47	99	153	66	25	3.3	22
22	5.5	13	18	12	181	43	81	117	78	13	3.1	20
23	5.5	13	22	12	239	46	81	90	48	10	2.8	18
24	5.5	357	27	11	235	55	119	75	40	46	2.8	16
25	70	238	25	11	167	55	119	64	73	31	3.1	15
26	43	111	20	21	129	54	92	57	141	22	3.9	14
27	16	76	20	119	103	266	141	58	58	36	3.9	13
28	13	62	24	100	109	179	109	145	42	29	3.9	13
29	14	53	31	56	---	134	95	231	36	41	3.9	12
30	11	45	35	40	---	120	87	141	32	18	3.9	12
31	9.0	---	32	55	---	104	---	181	---	12	6.6	---
TOTAL	322.8	1185.2	1468	787.8	3148	2505	3667	3458	3540	913	191.6	1266
MEAN	10.4	39.5	47.4	25.4	112	80.8	122	112	118	29.5	6.18	42.2
MAX	70	357	145	119	290	266	551	282	315	78	20	235
MIN	4.4	7.1	18	9.8	29	43	41	54	32	10	2.8	12
CFSM	.22	.84	1.00	.54	2.37	1.71	2.58	2.37	2.50	.62	.13	.89
IN.	.25	.93	1.15	.62	2.48	1.97	2.88	2.72	2.78	.72	.15	1.00

CAL YR 1980	TOTAL	26342.3	MEAN	72.0	MAX	710	MIN	4.4	CFSM	1.52	IN	20.72
WTR YR 1981	TOTAL	22452.4	MEAN	61.5	MAX	551	MIN	2.8	CFSM	1.30	IN	17.66

POTOMAC RIVER BASIN

01595300 ABRAM CREEK AT OAKMONT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965, 1969-71, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT										
24...	1615	5.5	687	4.3	7.5	10.5	310	.8	83	24
NOV										
04...	1300	8.1	580	4.7	7.0	--	--	--	--	--
19...	1130	18	490	4.7	.5	13.5	200	.7	52	17
DEC										
15...	1515	48	273	4.2	.5	12.8	100	.2	27	8.8
16...	1150	36	300	4.8	5.0	--	--	--	--	--
FEB										
03...	1240	53	175	6.8	.0	--	--	--	--	--
MAR										
13...	1315	60	277	4.3	6.0	10.7	--	.2	--	--
31...	1030	105	210	6.9	12.0	--	--	--	--	--
APR										
07...	0900	47	267	4.5	4.5	12.6	130	.3	36	9.1
MAY										
26...	1105	56	315	4.5	15.0	--	--	--	--	--
JUN										
17...	1830	66	475	4.0	19.5	--	--	.5	--	--
JUL										
14...	1030	21	560	4.3	20.5	--	--	--	--	--
21...	0720	28	520	3.9	19.0	--	190	1.0	49	17
22...	1500	12	590	4.8	21.0	9.1	--	1.0	--	--
AUG										
26...	1130	3.9	790	4.8	18.5	9.1	360	.8	94	31
31...	1220	4.5	820	4.3	20.5	--	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLG- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT											
24...	6.7	5	.2	2.8	0	340	3.9	.3	8.7	555	477
NOV											
19...	6.8	7	.2	1.8	--	220	6.0	.2	6.7	356	330
DEC											
15...	5.1	9	.2	1.8	0	120	5.3	.1	5.8	193	177
MAR											
13...	--	--	--	--	--	110	--	--	--	203	--
APR											
07...	4.3	7	.2	1.2	2	110	5.1	.2	6.2	184	175
JUN											
17...	--	--	--	--	0	150	--	--	--	278	--
JUL											
21...	6.6	--	.2	--	--	270	15	--	--	356	--
22...	--	--	--	--	2	220	--	--	--	436	--
AUG											
26...	8.0	5	.2	2.2	1	360	4.1	.4	9.6	606	--

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT											
24...	.75	8.2	.02	140	70	70	6000	0	6300	4	.06
NOV											
19...	.48	17.3	--	290	90	200	4000	0	4000	1	.05
DEC											
15...	.26	25.0	--	880	420	460	1800	100	1700	--	--
MAR											
13...	.28	32.9	--	890	480	410	1500	0	1500	--	--
APR											
07...	.25	23.3	--	640	350	290	1800	0	2000	--	--
JUN											
17...	.38	49.5	--	660	520	140	2600	0	2600	--	--
JUL											
21...	.48	26.9	--	810	750	60	4100	4100	4	--	--
22...	.59	14.1	--	220	140	80	4500	100	4800	--	--
AUG											
26...	.82	6.3	.21	160	100	60	6300	6300	20	--	--

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD

LOCATION.--Lat 39°23'38", long 79°10'55", Garrett County, Hydrologic Unit 02070002, on left bank 0.6 mi (1.0 km) downstream from bridge on State Highway 38 in Kitzmiller, 1.5 mi (2.4 km) downstream from Wolfden Run, and at mile 68.9 (110.9 km).

DRAINAGE AREA.--225 mi² (583 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,572.26 ft (479.225 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1954, at site 0.3 mi (0.5 km) upstream at datum 7.58 ft (2.310 m) higher. Oct. 15, 1954, to Nov. 20, 1955, nonrecording gage at bridge 0.5 mi (0.8 km) upstream at datum 21.51 ft (6.556 m) higher.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Regulation at low flow by Stony River Reservoir, 30 mi (48 km) above station (see station 01595200). Gage-height telemeter at station.

AVERAGE DISCHARGE.--32 years, 451 ft³/s (12.77 m³/s), 27.22 in/yr (691 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft³/s (946 m³/s) Oct. 15, 1954, gage height, 13.73 ft (4.185 m), from floodmarks, present site and datum; minimum discharge, 4.6 ft³/s (0.13 m³/s) Oct. 3-7, 1953, gage height, 1.45 ft (0.442 m), site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,400 ft³/s (96 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 24	1430	4520 128	7.29 2.222	Apr. 13	1030	5500 156	a7.7 2.35
Mar. 27	1400	4190 119	7.14 2.176	June 14	1500	*6270 178	7.99 2.435

a Approximate.

Minimum discharge, 34 ft³/s (0.96 m³/s) Oct. 24, 25, gage height, 2.35 ft (0.716 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	77	422	130	150	1170	739	1190	997	246	102	70
2	50	67	819	110	650	782	754	1310	1020	389	88	376
3	50	60	1110	90	507	648	626	804	809	281	95	584
4	51	58	646	80	377	560	588	671	1840	289	107	1310
5	50	77	543	68	302	560	609	861	1390	253	93	1140
6	48	78	507	62	272	563	602	688	2390	290	105	700
7	47	64	488	68	249	507	520	510	1680	279	165	508
8	46	61	523	80	233	436	380	367	1020	284	130	450
9	44	60	640	100	202	381	313	317	865	294	95	338
10	45	138	921	90	188	355	330	289	1390	298	72	178
11	56	102	652	76	813	336	500	348	1170	219	62	132
12	58	81	601	68	753	308	1500	380	875	180	60	117
13	50	72	561	60	490	379	3000	314	662	103	57	98
14	45	67	463	54	400	579	2000	279	3360	144	52	85
15	43	61	369	60	370	417	1200	562	1580	101	50	95
16	41	70	320	71	430	483	930	529	812	89	119	587
17	38	84	276	64	500	419	840	404	636	88	95	363
18	38	371	236	58	640	383	877	350	521	81	57	238
19	38	237	222	54	900	356	728	1440	449	76	48	194
20	40	149	150	58	1200	313	851	1290	1200	100	44	180
21	38	138	111	62	2190	303	679	886	837	131	43	198
22	40	126	110	64	1590	269	539	692	1080	96	40	182
23	40	115	100	68	1420	273	493	577	570	80	39	159
24	36	2210	96	64	1310	335	773	485	390	203	38	132
25	255	1710	90	62	1020	361	782	442	508	188	34	97
26	306	857	86	68	1260	379	634	407	855	115	34	82
27	117	699	80	90	544	1900	890	404	411	176	34	79
28	100	594	90	350	626	1960	745	617	308	185	34	78
29	189	507	110	270	---	965	640	779	251	369	39	71
30	117	783	130	180	---	870	610	704	215	181	35	71
31	88	---	160	140	---	839	---	1210	---	126	41	---
TOTAL	2256	9773	11632	2919	19586	18389	24672	20106	30091	5934	2107	8892
MEAN	72.8	326	375	94.2	700	593	822	649	1003	191	68.0	296
MAX	306	2210	1110	350	2190	1960	3000	1440	3360	389	165	1310
MIN	36	58	80	54	150	269	313	279	215	76	34	70
CAL YR 1980	TOTAL	167635	MEAN 458	MAX 4220	MIN 36	CFSM 2.04	IN 27.72					
WTR YR 1981	TOTAL	156357	MEAN 428	MAX 3360	MIN 34	CFSM 1.90	IN 25.85					

POTOMAC RIVER BASIN

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

pH: October 1980 to September 1981.

WATER TEMPERATURES: August 1961 to current year.

DISSOLVED OXYGEN: October 1980 to September 1981.

SUSPENDED-SEDIMENT DISCHARGE: February to September 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor since October 1980. Temperature recorder prior to October 1980.

REMARKS.--Interruptions in record were due to malfunctions of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (water years 1961-79): Maximum, 32.0°C Aug. 15, 16, 18, 1965; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03)
DEC 17...	1130	281	282	4.9	2.0	.7	13.3	--	--
APR 06...	1730	540	159	4.4	6.0	8.5	10.8	--	--
JUN 17...	1645	642	270	4.0	23.0	20.7	--	--	--
AUG 26...	1430	43	1160	4.8	24.0	24.0	--	520	520

DATE	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM 40 DIS- SOLVED (PCI/L AS K40)
DEC 17...	.2	10	--	--	--	--	--	--	--
APR 06...	.1	5.0	--	--	--	--	--	--	--
JUN 17...	.2	10	--	--	--	--	--	--	--
AUG 26...	.3	15	180	17	12	5	.2	2.5	1.9

DATE	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 120 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
DEC 17...	3	130	--	--	--	197	--	.27	149
APR 06...	3	59	--	--	--	90	--	.12	131
JUN 17...	0	88	--	--	--	153	--	.21	265
AUG 26...	1	600	3.3	.2	7.5	907	826	1.2	105

POTOMAC RIVER BASIN

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01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L) AS AS)	ARSENIC IN BOT- TOM MA- TERIAL (UG/G) AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L) AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L) AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L) AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS CR)	CUHALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS CU)
AUG 26...	1	<1	100	2	<1	10	5	<10	7	7
DATE	IRON, TOTAL RECOV- ERABLE (UG/L) AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L) AS FE)	IRON, DIS- SOLVED (UG/L) AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L) AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L) AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L) AS MN)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN)	
DEC 17...	1000	370	630	--	--	--	640	50	590	
APR 06...	880	460	420	--	--	--	580	0	590	
JUN 17...	1900	1500	410	--	--	--	640	20	620	
AUG 26...	290	140	150	10000	8	10	1700	0	1700	
DATE	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY TOTAL RECOV- ERABLE (UG/L) AS HG) (71900)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS HG) (71921)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L) AS SE) (01147)	SELE- NIUM, IN BOT- TOM MA- TERIAL (UG/G) AS SE) (01148)	SILVER, TOTAL RECOV- ERABLE (UG/L) AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L) AS ZN) (01092)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G) AS ZN) (01093)	COAL IN BOTTOM MATERIAL (GM/KG) (82031)	
AUG 26...	240	<.1	<.01	1	<1	<1	140	31	20.0	

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

SPECIFIC CONDUCTANCE (MICROMHCS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	423	386	412	573	523	554	940	820	891
2	---	---	---	423	352	378	607	576	590	920	450	788
3	---	---	---	367	311	328	717	602	675	450	170	200
4	---	---	---	397	356	371	658	609	633	230	140	185
5	---	---	---	380	363	375	721	619	682	150	140	145
6	---	---	---	389	366	378	731	652	706	170	160	165
7	---	---	---	411	334	362	675	629	646	190	170	185
8	---	---	---	341	312	331	665	569	628	250	190	207
9	---	---	---	332	225	308	649	590	626	270	250	259
10	---	---	---	288	223	256	620	577	595	330	260	295
11	---	---	---	310	285	298	675	622	653	420	340	371
12	---	---	---	348	311	327	728	677	701	440	410	423
13	---	---	---	515	350	479	748	729	736	460	410	439
14	---	---	---	677	492	591	842	751	791	500	450	478
15	---	---	---	526	483	489	886	848	866	530	490	516
16	---	---	---	622	532	584	998	727	855	490	190	319
17	---	---	---	710	626	665	717	616	663	220	190	203
18	---	---	---	756	712	735	696	673	683	280	210	241
19	---	---	---	763	737	753	755	695	730	280	250	260
20	---	---	---	761	696	720	770	756	764	270	260	264
21	---	---	---	744	616	674	866	755	804	260	240	253
22	---	---	---	649	564	619	989	871	934	380	240	307
23	---	---	---	637	566	612	1070	991	1030	413	370	390
24	304	220	251	659	471	604	---	---	---	466	406	446
25	327	263	315	479	395	445	---	---	---	569	469	531
26	253	175	219	550	483	514	1090	1080	1090	592	532	572
27	272	248	261	510	449	475	1120	1090	1100	535	495	517
28	304	262	276	519	413	472	1130	1120	1120	558	488	520
29	354	307	335	434	385	407	1230	1140	1180	631	551	588
30	405	356	384	454	388	424	1310	1230	1270	664	574	627
31	---	---	---	520	456	487	1210	740	892	---	---	---
MONTH	405	175	292	763	223	480	1310	523	800	940	140	386

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	5.5	5.4	5.5	---	---	---	5.7	5.7	5.7
2	---	---	---	5.5	5.3	5.5	---	---	---	5.7	5.6	5.7
3	---	---	---	5.5	5.3	5.4	---	---	---	5.7	5.7	5.7
4	---	---	---	5.4	5.3	5.3	---	---	---	5.8	5.7	5.7
5	---	---	---	5.5	5.3	5.4	---	---	---	5.7	5.6	5.6
6	---	---	---	5.5	5.4	5.5	---	---	---	5.7	5.6	5.6
7	---	---	---	5.5	5.3	5.4	---	---	---	5.7	5.6	5.7
8	---	---	---	5.3	5.2	5.3	---	---	---	5.7	5.6	5.6
9	---	---	---	5.3	5.2	5.3	---	---	---	5.6	5.3	5.5
10	---	---	---	5.5	5.3	5.4	---	---	---	5.6	5.5	5.5
11	---	---	---	5.6	5.5	5.6	---	---	---	5.6	5.5	5.5
12	---	---	---	5.6	5.5	5.6	5.9	5.7	5.8	5.6	5.5	5.6
13	---	---	---	5.6	5.5	5.5	5.8	5.7	5.7	5.6	5.5	5.6
14	---	---	---	5.5	5.4	5.5	5.8	5.7	5.8	5.6	5.5	5.5
15	---	---	---	5.5	5.4	5.4	5.9	5.8	5.8	5.6	5.6	5.6
16	---	---	---	5.5	5.4	5.5	5.9	5.8	5.9	5.6	5.5	5.6
17	---	---	---	5.6	5.5	5.5	5.9	5.7	5.8	5.5	5.5	5.5
18	---	---	---	6.2	5.5	5.8	5.8	5.7	5.8	5.5	5.5	5.5
19	---	---	---	6.2	5.8	6.1	5.7	5.6	5.7	5.5	5.5	5.5
20	---	---	---	6.7	5.5	6.0	5.8	5.7	5.7	5.5	5.5	5.5
21	---	---	---	5.9	5.7	5.8	5.8	5.7	5.7	5.5	5.5	5.5
22	---	---	---	5.8	5.7	5.8	5.8	5.7	5.7	5.6	5.5	5.6
23	---	---	---	5.8	5.7	5.7	5.7	5.6	5.7	5.6	5.5	5.5
24	---	---	---	---	---	---	5.7	5.7	5.7	5.6	5.5	5.5
25	---	---	---	---	---	---	5.7	5.7	5.7	5.6	5.5	5.5
26	---	---	---	---	---	---	5.7	5.6	5.7	5.8	5.6	5.7
27	---	---	---	---	---	---	5.7	5.6	5.6	7.0	5.8	6.1
28	---	---	---	---	---	---	5.7	5.6	5.6	7.7	6.2	6.7
29	---	---	---	---	---	---	5.7	5.7	5.7	6.9	6.2	6.3
30	5.5	5.3	5.4	---	---	---	5.8	5.7	5.7	6.4	5.6	5.7
31	5.6	5.4	5.5	---	---	---	5.8	5.7	5.7	5.9	5.8	5.8
MONTH	5.6	5.3	5.5	6.7	5.2	5.6	5.9	5.6	5.7	7.7	5.3	5.7

POTOMAC RIVER BASIN

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.9	5.8	5.9									
2	7.0	5.9	6.4									
3	6.5	6.3	6.4									
4	6.8	6.3	6.6									
5	7.0	6.6	6.9									
6	7.2	6.6	6.9									
7	6.9	6.0	6.7									
8	7.0	6.9	6.9									
9	7.1	5.8	6.7									
10	7.1	6.8	6.9									
11	6.5	6.2	6.6									
12	6.7	6.5	6.7									
13	6.7	5.9	6.5									
14	6.4	5.7	6.2									
15	6.8	6.4	6.7									
16	6.9	6.7	6.8									
17	---	---	---									
18	---	---	---									
19	---	---	---									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	7.2	5.7	6.6									

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	6.2	5.4	5.7	5.6	5.3	5.4	5.0	4.8	4.9
2	---	---	---	6.5	5.4	6.0	5.4	5.2	5.3	5.9	4.9	5.1
3	---	---	---	6.5	6.1	6.3	5.3	5.0	5.1	6.5	5.9	6.3
4	---	---	---	6.1	5.2	5.5	5.3	5.1	5.2	6.6	5.9	6.4
5	---	---	---	5.7	5.6	5.7	5.2	5.1	5.1	5.8	5.4	5.6
6	---	---	---	5.7	5.2	5.5	5.5	5.1	5.3	5.3	5.3	5.3
7	---	---	---	5.3	5.0	5.2	5.5	5.4	5.4	5.3	5.1	5.2
8	---	---	---	5.2	5.0	5.1	5.5	5.4	5.5	5.4	5.2	5.3
9	---	---	---	5.2	5.1	5.2	5.5	5.3	5.4	5.8	5.4	5.6
10	---	---	---	5.2	5.0	5.1	5.4	5.2	5.3	5.6	5.4	5.5
11	---	---	---	5.1	5.0	5.1	5.3	5.2	5.3	5.5	5.3	5.4
12	---	---	---	5.2	5.1	5.1	5.3	5.2	5.2	5.4	5.2	5.3
13	---	---	---	5.1	5.1	5.1	5.3	5.2	5.2	5.3	5.2	5.2
14	---	---	---	5.2	5.1	5.1	5.3	5.1	5.2	5.2	5.1	5.2
15	---	---	---	5.2	5.1	5.1	5.2	5.1	5.2	5.3	5.1	5.2
16	---	---	---	5.1	5.0	5.1	5.3	5.1	5.2	6.1	5.2	5.6
17	---	---	---	5.1	5.0	5.1	5.4	5.2	5.3	5.9	5.7	5.8
18	---	---	---	5.1	5.0	5.1	5.3	5.2	5.3	5.7	5.5	5.6
19	---	---	---	5.1	4.9	5.0	5.4	5.2	5.3	5.5	5.4	5.5
20	---	---	---	5.1	4.9	5.0	5.4	5.2	5.3	5.5	5.4	5.4
21	---	---	---	5.2	4.9	5.1	5.3	5.2	5.2	5.4	5.3	5.4
22	---	---	---	5.3	5.1	5.2	5.2	5.1	5.2	5.3	5.0	5.2
23	5.0	4.9	5.0	5.2	5.0	5.1	5.2	5.1	5.2	5.3	5.2	5.3
24	5.1	5.0	5.0	5.8	4.9	5.2	---	---	---	5.4	5.3	5.3
25	6.4	4.9	5.2	6.6	5.5	6.0	---	---	---	5.3	5.2	5.3
26	6.6	5.0	5.5	5.8	5.4	5.5	5.0	4.9	4.9	5.3	5.1	5.2
27	6.1	5.2	5.9	6.3	5.1	6.0	5.0	4.9	4.9	5.2	5.1	5.1
28	6.2	5.9	6.0	6.6	5.6	6.0	5.0	4.9	4.9	5.2	5.1	5.2
29	5.9	5.8	5.8	6.7	6.3	6.6	5.0	4.9	5.0	5.3	5.2	5.2
30	5.9	5.8	5.8	6.2	5.8	6.1	5.0	4.9	5.0	5.3	5.2	5.2
31	---	---	---	5.8	5.6	5.7	5.0	4.9	5.0	---	---	---
MONTH	6.6	4.9	5.5	6.7	4.9	5.4	5.6	4.9	5.2	6.6	4.8	5.4

POTOMAC RIVER BASIN

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	18.5	16.5	17.0	24.0	17.0	20.5	24.0	19.5	21.5
2	---	---	---	18.5	16.0	17.0	24.5	17.5	21.0	22.5	20.0	21.0
3	---	---	---	19.5	17.0	18.0	23.5	20.0	21.5	21.5	20.5	21.0
4	---	---	---	20.5	17.0	18.5	25.0	19.5	22.0	21.5	18.5	20.0
5	---	---	---	19.0	18.0	18.5	26.0	20.5	23.0	23.5	20.5	22.0
6	---	---	---	22.0	17.5	19.5	22.5	19.5	20.5	23.0	21.5	22.0
7	---	---	---	24.5	19.0	21.5	22.0	18.5	20.5	24.0	21.5	22.5
8	---	---	---	25.0	20.0	23.5	25.0	19.0	21.5	22.5	19.5	21.0
9	---	---	---	26.5	22.0	24.0	25.0	19.0	22.0	19.0	16.5	17.5
10	---	---	---	26.0	23.0	24.0	26.0	19.0	22.5	19.0	13.5	16.5
11	---	---	---	25.5	19.5	22.5	25.0	19.5	22.5	20.5	15.0	17.5
12	---	---	---	25.5	19.5	22.5	24.5	20.5	22.5	22.0	17.0	19.0
13	---	---	---	23.0	20.0	21.5	24.0	18.5	21.0	23.0	17.0	20.0
14	---	---	---	25.5	21.0	23.0	25.0	18.5	21.5	22.5	17.0	20.0
15	---	---	---	25.0	18.0	21.5	23.0	19.5	21.5	20.0	18.5	19.5
16	---	---	---	21.0	19.0	20.0	23.5	20.0	21.5	19.0	16.0	17.0
17	---	---	---	26.0	18.5	22.0	23.0	17.5	20.0	16.5	14.5	15.5
18	---	---	---	27.0	19.0	22.5	22.0	15.5	18.5	17.0	13.5	14.5
19	---	---	---	27.0	20.0	23.5	21.5	14.5	18.0	14.0	12.5	13.0
20	---	---	---	26.5	22.0	24.0	22.5	15.0	18.5	14.0	12.0	13.0
21	---	---	---	25.0	21.5	23.0	22.0	15.0	18.5	17.0	13.0	15.0
22	---	---	---	24.0	20.5	22.0	23.5	16.5	19.5	18.0	14.5	16.0
23	19.0	17.5	18.5	25.5	18.0	21.5	23.0	15.0	19.0	15.0	12.5	14.0
24	21.0	15.5	18.0	21.5	17.5	19.0	---	---	---	15.5	11.0	13.0
25	21.5	17.5	19.0	23.0	17.5	20.0	---	---	---	16.5	10.5	13.5
26	18.5	16.0	17.5	24.5	20.5	22.0	24.0	16.5	20.0	19.0	13.0	16.0
27	19.0	14.0	16.5	24.0	20.5	22.0	24.5	16.5	20.5	18.5	15.0	16.5
28	20.0	14.0	16.5	23.0	19.5	21.0	24.5	18.0	21.0	16.5	13.0	15.0
29	21.0	14.5	17.5	20.5	18.0	19.5	24.5	18.0	21.5	15.5	10.5	13.5
30	21.0	16.5	18.5	22.5	16.0	19.0	23.5	18.5	21.0	16.0	13.0	14.0
31	---	---	---	23.0	16.0	19.5	23.0	19.5	21.0	---	---	---
MONTH	21.5	14.0	18.0	27.0	16.0	21.0	26.0	14.5	21.0	24.0	10.5	17.5

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	12.6	11.5	12.1	---	---	---	---	---	---
2	---	---	---	13.0	11.9	12.5	---	---	---	---	---	---
3	---	---	---	13.4	11.9	12.6	---	---	---	---	---	---
4	---	---	---	12.3	11.5	12.0	---	---	---	---	---	---
5	---	---	---	12.4	11.8	12.0	---	---	---	---	---	---
6	---	---	---	13.0	12.0	12.5	---	---	---	---	---	---
7	---	---	---	12.8	11.2	12.0	---	---	---	---	---	---
8	---	---	---	11.6	11.1	11.3	---	---	---	---	---	---
9	---	---	---	11.8	10.8	11.3	---	---	---	---	---	---
10	---	---	---	14.5	11.4	12.9	---	---	---	---	---	---
11	---	---	---	15.3	14.6	14.9	---	---	---	---	---	---
12	---	---	---	15.6	14.6	15.2	---	---	---	---	---	---
13	---	---	---	15.7	14.2	15.0	---	---	---	---	---	---
14	---	---	---	15.3	14.1	14.6	---	---	---	---	---	---
15	---	---	---	14.4	14.0	14.2	---	---	---	---	---	---
16	---	---	---	15.1	14.1	14.5	---	---	---	---	---	---
17	---	---	---	15.8	15.1	15.5	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	14.8	13.0	13.4	---	---	---	---	---	---
22	---	---	---	13.4	12.5	13.1	---	---	---	---	---	---
23	---	---	---	13.1	12.0	12.6	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	12.5	11.7	12.1	---	---	---	---	---	---	---	---	---
31	13.0	11.8	12.4	---	---	---	---	---	---	11.7	11.2	11.4
MONTH	13.0	11.7	12.3	15.8	10.8	13.2	---	---	---	11.7	11.2	11.4

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	11.2	10.8	11.0									
2	12.5	10.7	11.6									
3	11.5	10.7	11.0									
4	10.8	10.3	10.6									
5	10.6	10.4	10.5									
6	10.4	9.8	10.1									
7	10.3	9.5	9.7									
8	9.6	9.4	9.5									
9	9.6	8.7	9.2									
10	9.2	8.8	9.0									
11	8.9	8.6	8.8									
12	9.0	8.6	8.9									
13	8.7	8.1	8.6									
14	8.4	7.9	8.2									
15	8.6	8.4	8.5									
16	8.5	8.4	8.5									
17	---	---	---									
18	---	---	---									
19	---	---	---									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	12.5	7.9	9.6									
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	7.5	7.2	7.4	10.2	8.8	9.5	8.7	7.9	8.2
2	---	---	---	7.7	7.1	7.5	9.8	8.7	9.2	8.7	8.2	8.4
3	---	---	---	7.7	7.3	7.5	9.3	8.7	9.0	9.7	8.7	9.4
4	---	---	---	7.3	6.7	7.0	9.4	8.7	9.0	10.5	9.6	10.0
5	---	---	---	7.1	6.8	6.9	9.3	8.4	8.9	10.0	9.1	9.5
6	---	---	---	7.0	6.4	6.8	9.3	8.9	9.2	9.3	9.0	9.2
7	---	---	---	6.8	6.1	6.5	9.4	8.8	9.2	9.3	9.0	9.1
8	---	---	---	9.8	6.4	9.2	8.9	7.9	8.4	9.6	9.2	9.4
9	---	---	---	9.3	8.6	9.0	8.4	7.5	8.0	10.3	9.7	10.0
10	---	---	---	9.2	8.6	8.9	8.3	7.4	7.8	10.3	6.3	9.7
11	---	---	---	9.8	8.7	9.2	8.2	7.5	7.7	9.7	8.9	9.3
12	---	---	---	9.7	8.6	9.2	8.1	7.6	7.8	9.2	8.5	8.8
13	---	---	---	9.4	8.8	9.1	8.3	7.7	7.9	8.9	8.3	8.6
14	---	---	---	---	---	---	8.4	7.5	7.9	8.9	8.4	8.7
15	---	---	---	---	---	---	8.2	7.7	7.9	8.9	8.7	8.8
16	---	---	---	---	---	---	8.2	7.8	7.9	9.8	6.8	9.2
17	---	---	---	---	---	---	8.5	7.7	8.0	9.9	8.7	9.7
18	---	---	---	---	---	---	8.7	7.8	8.2	9.8	7.4	9.5
19	---	---	---	---	---	---	8.6	7.7	8.1	9.7	8.5	9.6
20	---	---	---	---	---	---	8.4	7.5	7.9	9.8	9.6	9.7
21	---	---	---	---	---	---	8.4	7.6	7.9	9.8	9.5	9.7
22	---	---	---	---	---	---	8.3	7.6	7.9	9.8	9.6	9.7
23	---	---	---	---	---	---	8.6	7.7	8.0	---	---	---
24	8.3	7.4	7.9	---	---	---	---	---	---	---	---	---
25	8.3	7.2	7.6	---	---	---	8.5	7.2	6.6	---	---	---
26	8.6	7.7	8.1	---	---	---	8.4	7.1	7.6	---	---	---
27	8.7	8.0	8.3	---	---	---	8.5	7.2	7.7	---	---	---
28	8.8	7.7	8.3	---	---	---	8.5	4.3	7.7	---	---	---
29	8.3	7.3	7.8	---	---	---	8.6	7.4	7.9	---	---	---
30	7.8	7.2	7.5	11.0	9.7	10.4	8.7	7.7	8.1	---	---	---
31	---	---	---	10.6	9.2	9.9	8.7	7.9	8.2	---	---	---
MONTH	8.8	7.2	7.9	11.0	6.1	8.3	10.2	4.3	8.2	10.5	6.3	9.3

POTOMAC RIVER BASIN

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV

LOCATION.--Lat 39°26'44", long 79°06'39", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at highway bridge at Barnum, W. Va., 0.4 mi (0.6 km) upstream from Folly Run, and 4.0 mi (6.4 km) southwest of Piedmont, W. Va., and at mile 59.4 (95.6 km).

DRAINAGE AREA.--266 mi² (689 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,151.82 ft (351.075 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Regulation at low flow by Stony River Reservoir, 39 mi (63 km) above station (see station 01595200), and since July 1981 complete regulation by Bloomington Reservoir, 1.5 mi (2.4 km) above station.

AVERAGE DISCHARGE.--15 years, 538 ft³/s (15.24 m³/s), 27.47 in/yr (698 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,100 ft³/s (767 m³/s) July 3, 1978, gage height, 13.37 ft (4.075 m), from rating curve extended above 8,000 ft³/s (227 m³/s) on basis of slope-area measurement of peak flow; minimum discharge, 0.91 ft³/s (0.026 m³/s) Aug. 12, 1981, gage height, 1.76 ft (0.536 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,330 ft³/s (151 m³/s) April 13, gage height, 7.50 ft (2.286 m), no other peak above base of 4,000 ft³/s (110 m³/s); minimum discharge, 0.91 ft³/s (0.026 m³/s) Aug. 12, gage height, 1.76 ft (0.536 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	94	522	150	170	1350	807	1080	1240	242	122	39
2	45	82	703	130	600	955	879	1810	1280	394	112	42
3	45	71	1330	110	500	764	716	1030	932	343	92	189
4	45	65	757	94	400	631	650	828	1880	314	76	730
5	44	76	581	80	350	631	663	939	1880	284	82	1170
6	43	96	539	70	300	631	676	857	2370	299	90	670
7	42	78	516	90	280	575	581	663	2270	291	84	372
8	42	71	545	100	260	498	465	456	1330	302	78	249
9	39	69	551	120	250	437	368	394	1070	274	82	252
10	44	114	1060	100	240	415	368	360	1490	314	94	94
11	56	144	737	84	637	402	575	394	1530	266	92	54
12	62	103	612	76	1100	372	1350	475	1110	204	65	67
13	46	86	600	68	625	415	4500	398	814	139	84	80
14	39	82	510	62	606	637	2200	351	2660	110	86	71
15	39	73	423	70	522	498	1660	527	2530	101	92	63
16	34	76	364	76	527	539	1190	637	986	80	92	281
17	33	92	322	72	764	492	1020	522	709	80	78	222
18	34	277	270	67	1180	441	1070	415	575	82	63	65
19	33	339	266	61	1360	432	886	1320	470	80	62	67
20	33	204	201	66	1580	377	978	1820	1150	80	58	67
21	33	169	166	70	2380	368	843	1160	1060	80	51	67
22	34	161	150	74	1940	326	657	872	1170	88	47	69
23	36	147	130	80	1640	330	569	716	730	84	52	60
24	33	1620	120	76	1700	381	828	594	432	88	52	52
25	155	2320	110	72	1250	406	901	516	381	152	46	52
26	347	1080	100	75	1470	423	757	475	1050	155	44	52
27	161	778	90	95	689	1850	932	480	480	256	51	52
28	117	670	110	400	606	2260	924	581	355	204	51	52
29	195	563	130	300	---	1140	750	1030	288	213	51	52
30	152	737	150	190	---	994	716	879	245	152	56	52
31	114	---	180	160	---	962	---	1320	---	142	51	---
TOTAL	2220	10537	12845	3338	23926	20932	29479	23899	34467	5893	2236	5404
MEAN	71.6	351	414	108	855	675	983	771	1149	190	72.1	180
MAX	347	2320	1330	400	2380	2260	4500	1820	2660	394	122	1170
MIN	33	65	90	61	170	326	368	351	245	80	44	39
CAL YR 1980	TOTAL	198092	MEAN 541	MAX 3240	MIN 33	CFSM 2.03	IN 27.70					
WTR YR 1981	TOTAL	175176	MEAN 480	MAX 4500	MIN 33	CFSM 1.81	IN 24.50					

POTOMAC RIVER BASIN

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01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

pH: October 1980 to September 1981.

WATER TEMPERATURES: October 1980 to September 1981.

DISSOLVED OXYGEN: October 1980 to September 1981.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CAC03)	ALKA- LITY FIELD (MG/L AS CAC03)
DEC 17...	0830	330	276	5.0	-4.5	.9	13.3	.0	.0	5

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC 17...	120	205	.28	183	1700	1100	560	700	70	630

POTOMAC RIVER BASIN

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	760	744	750	---	---	---	254	151	188	---	---	---
2	760	744	751	---	---	---	265	223	247	---	---	---
3	826	755	776	---	---	---	224	158	173	---	---	---
4	888	831	871	---	---	---	193	169	184	---	---	---
5	892	852	876	---	---	---	197	187	192	---	---	---
6	859	810	845	---	---	---	210	201	204	---	---	---
7	812	795	804	---	---	---	206	197	203	---	---	---
8	813	791	802	---	---	---	201	196	198	---	---	---
9	833	806	819	---	---	---	238	201	216	---	---	---
10	847	817	836	---	---	---	230	181	194	---	---	---
11	836	807	823	---	---	---	213	184	198	---	---	---
12	806	758	788	---	---	---	234	216	228	---	---	---
13	779	754	761	---	---	---	240	220	229	---	---	---
14	788	759	775	---	---	---	261	243	253	---	---	---
15	761	727	750	---	---	---	262	240	244	---	---	---
16	729	708	715	---	---	---	319	269	300	---	---	---
17	723	716	716	---	---	---	337	323	330	---	---	---
18	756	724	741	---	---	---	340	319	333	---	---	---
19	800	758	778	---	---	---	---	---	---	---	---	---
20	813	800	806	---	---	---	---	---	---	---	---	---
21	800	777	785	342	290	318	---	---	---	---	---	---
22	778	774	775	393	310	346	---	---	---	---	---	---
23	789	778	784	395	374	385	---	---	---	---	---	---
24	776	751	760	415	217	375	---	---	---	---	---	---
25	---	---	---	217	135	147	---	---	---	---	---	---
26	---	---	---	156	138	147	---	---	---	---	---	---
27	---	---	---	171	157	166	---	---	---	---	---	---
28	---	---	---	191	174	180	---	---	---	---	---	---
29	---	---	---	203	192	189	---	---	---	---	---	---
30	---	---	---	216	155	196	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	892	708	787	415	135	245	340	151	229	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	236	163	185	---	---	---	---	---	---
2	---	---	---	176	162	169	---	---	---	---	---	---
3	---	---	---	181	174	178	---	---	---	---	---	---
4	---	---	---	191	182	187	---	---	---	---	---	---
5	---	---	---	191	186	188	---	---	---	---	---	---
6	---	---	---	193	188	191	---	---	---	---	---	---
7	---	---	---	198	188	193	199	187	193	---	---	---
8	---	---	---	207	197	200	233	200	213	---	---	---
9	---	---	---	225	206	214	278	235	264	---	---	---
10	---	---	---	255	226	240	---	---	---	---	---	---
11	---	---	---	265	256	261	---	---	---	---	---	---
12	---	---	---	286	265	274	---	---	---	---	---	---
13	---	---	---	298	284	289	154	123	134	---	---	---
14	---	---	---	---	---	---	201	166	193	---	---	---
15	---	---	---	---	---	---	205	198	201	---	---	---
16	---	---	---	---	---	---	213	204	209	---	---	---
17	---	---	---	---	---	---	214	210	212	---	---	---
18	182	135	154	258	237	250	216	208	211	---	---	---
19	134	126	129	295	271	285	228	211	219	---	---	---
20	154	129	144	306	295	301	228	214	221	---	---	---
21	150	136	142	318	302	310	216	198	205	---	---	---
22	147	138	143	344	310	325	214	199	208	---	---	---
23	165	147	154	354	336	346	222	214	219	---	---	---
24	162	155	158	341	297	310	227	212	222	---	---	---
25	176	162	169	304	288	293	212	199	207	---	---	---
26	187	137	161	296	281	288	207	198	201	---	---	---
27	215	173	199	282	140	214	215	204	211	---	---	---
28	242	232	238	156	131	141	---	---	---	276	249	266
29	---	---	---	184	159	175	---	---	---	252	220	231
30	---	---	---	---	---	---	---	---	---	228	213	220
31	---	---	---	---	---	---	---	---	---	211	182	202
MONTH	242	126	163	354	131	240	278	123	208	276	182	230

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	195	177	186	425	402	414				---	---	---
2	201	175	187	425	381	401				---	---	---
3	226	202	213	412	350	379				---	---	---
4	218	155	176	400	349	375				---	---	---
5	181	156	169	395	385	390				---	---	---
6	193	159	176	400	392	396				---	---	---
7	187	160	173	403	373	389				---	---	---
8	216	192	205	406	340	370				---	---	---
9	228	215	223	351	340	346				---	---	---
10	234	189	215	346	261	294				---	---	---
11	196	184	190	313	274	296				---	---	---
12	214	197	207	341	315	325				---	---	---
13	242	211	229	364	342	350				---	---	---
14	233	121	182	510	366	428				---	---	---
15	173	124	143	579	520	552				---	---	---
16	220	174	199	529	519	524				---	---	---
17	241	220	230	547	518	531				---	---	---
18	267	242	254	599	547	579				---	---	---
19	292	267	279	651	602	636				---	---	---
20	294	190	244	690	644	667				---	---	---
21	222	191	203	700	686	689				---	---	---
22	219	180	195	693	670	685				---	---	---
23	---	---	---	671	654	664				426	414	420
24	---	---	---	654	549	630				431	425	428
25	337	279	314	609	560	583				---	---	---
26	327	225	255	561	471	542				---	---	---
27	293	257	276	525	483	500				---	---	---
28	303	291	294	493	451	480				---	---	---
29	359	305	330	---	---	---				---	---	---
30	400	360	377	---	---	---				---	---	---
31	---	---	---	---	---	---				---	---	---
MONTH	400	121	226	700	261	479				431	414	424

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	5.1	4.9	5.0			
2	---	---	---	---	---	---	5.6	5.1	5.4			
3	---	---	---	---	---	---	6.3	4.8	5.3			
4	---	---	---	---	---	---	5.0	4.8	4.9			
5	---	---	---	---	---	---	4.8	4.7	4.8			
6	---	---	---	---	---	---	4.7	4.6	4.7			
7	---	---	---	---	---	---	4.8	4.7	4.8			
8	---	---	---	---	---	---	5.7	4.7	4.7			
9	---	---	---	---	---	---	4.8	4.6	4.7			
10	---	---	---	---	---	---	5.3	5.0	5.2			
11	---	---	---	---	---	---	5.6	5.2	5.4			
12	---	---	---	---	---	---	5.6	5.3	5.5			
13	---	---	---	---	---	---	5.5	5.5	5.5			
14	---	---	---	---	---	---	5.6	5.2	5.4			
15	---	---	---	---	---	---	5.7	5.2	5.2			
16	---	---	---	---	---	---	5.4	5.4	5.4			
17	4.9	4.8	4.9	---	---	---	5.4	5.3	5.4			
18	4.9	4.8	4.8	---	---	---	5.4	5.3	5.4			
19	4.8	4.7	4.8	---	---	---	5.5	5.5	5.5			
20	4.8	4.8	4.8	5.5	5.4	5.5	---	---	---			
21	4.9	4.7	4.8	5.5	5.4	5.5	---	---	---			
22	4.9	4.7	4.8	5.5	5.4	5.5	---	---	---			
23	4.9	4.8	4.9	5.3	5.2	5.3	---	---	---			
24	4.9	4.8	4.9	6.0	5.3	5.5	---	---	---			
25	---	---	---	6.1	5.8	5.9	---	---	---			
26	---	---	---	5.8	5.6	5.7	---	---	---			
27	---	---	---	5.6	5.5	5.6	---	---	---			
28	---	---	---	5.4	5.3	5.4	---	---	---			
29	---	---	---	5.4	5.4	5.4	---	---	---			
30	---	---	---	5.4	5.0	5.3	---	---	---			
31	---	---	---	---	---	---	---	---	---			
MONTH	4.9	4.7	4.8	6.1	5.0	5.5	6.3	4.6	5.2			

POTOMAC RIVER BASIN

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	5.4	5.3	5.3	---	---	---
8	---	---	---	---	---	---	5.3	5.3	5.3	---	---	---
9	---	---	---	---	---	---	5.4	5.3	5.3	---	---	---
10	---	---	---	---	---	---	5.4	5.3	5.4	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	6.5	5.6	6.0	---	---	---
14	---	---	---	---	---	---	5.6	5.3	5.5	---	---	---
15	---	---	---	---	---	---	5.4	5.2	5.3	---	---	---
16	---	---	---	---	---	---	5.4	5.2	5.3	---	---	---
17	---	---	---	---	---	---	5.3	5.2	5.3	---	---	---
18	6.0	4.0	5.0	---	---	---	5.4	5.2	5.3	---	---	---
19	4.2	4.0	4.1	---	---	---	5.2	5.1	5.2	---	---	---
20	4.3	4.1	4.2	---	---	---	5.2	5.1	5.2	---	---	---
21	4.4	4.1	4.2	---	---	---	5.5	5.2	5.3	---	---	---
22	4.1	4.0	4.1	---	---	---	5.5	5.5	5.5	---	---	---
23	4.3	4.0	4.1	---	---	---	5.5	5.4	5.5	---	---	---
24	5.1	4.4	4.7	---	---	---	5.7	5.4	5.6	---	---	---
25	5.0	4.8	4.9	---	---	---	6.0	5.7	5.9	---	---	---
26	4.8	4.5	4.6	---	---	---	5.9	5.7	5.8	---	---	---
27	4.7	4.4	4.6	---	---	---	5.9	5.7	5.8	---	---	---
28	4.1	4.0	4.1	---	---	---	5.8	5.7	5.8	6.6	5.5	5.8
29	---	---	---	---	---	---	---	---	---	6.4	6.2	6.3
30	---	---	---	---	---	---	---	---	---	6.2	6.0	6.1
31	---	---	---	---	---	---	---	---	---	6.5	6.1	6.4
MONTH	6.0	4.0	4.4	---	---	---	6.5	5.1	5.5	6.6	5.5	6.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	6.4	6.0	6.2	6.2	5.5	5.6	---	---	---	---	---	---
2	6.0	5.8	5.9	5.8	5.5	5.6	---	---	---	---	---	---
3	6.2	5.9	6.0	6.1	5.7	5.9	---	---	---	---	---	---
4	6.4	6.0	6.2	6.1	5.2	5.6	---	---	---	---	---	---
5	6.7	6.5	6.6	5.5	5.3	5.4	---	---	---	---	---	---
6	6.5	5.7	6.2	5.9	5.3	5.5	---	---	---	---	---	---
7	5.6	5.2	5.4	5.3	5.0	5.1	---	---	---	---	---	---
8	5.5	5.2	5.2	5.0	4.7	4.9	---	---	---	---	---	---
9	5.2	5.1	5.2	4.9	4.9	4.9	---	---	---	---	---	---
10	6.1	5.2	5.5	5.0	4.9	4.9	---	---	---	---	---	---
11	5.4	5.1	5.2	4.9	4.8	4.9	---	---	---	---	---	---
12	5.3	5.1	5.2	4.9	4.8	4.9	---	---	---	---	---	---
13	5.4	5.0	5.2	5.0	4.9	4.9	---	---	---	---	---	---
14	6.1	5.0	5.3	5.0	4.8	4.9	---	---	---	---	---	---
15	5.1	4.9	5.0	4.9	4.8	4.9	---	---	---	---	---	---
16	5.1	4.8	5.0	4.9	4.9	4.9	---	---	---	---	---	---
17	5.0	4.9	4.9	4.9	4.9	4.9	---	---	---	---	---	---
18	5.0	4.9	5.0	4.9	4.8	4.9	---	---	---	---	---	---
19	5.0	4.9	5.0	4.9	4.8	4.9	---	---	---	---	---	---
20	6.1	5.0	5.6	4.9	4.7	4.8	---	---	---	---	---	---
21	6.0	5.2	5.5	4.8	4.7	4.8	---	---	---	---	---	---
22	5.8	5.1	5.4	4.9	4.8	4.8	---	---	---	---	---	---
23	5.1	5.0	5.0	4.9	4.9	4.9	---	---	---	---	---	---
24	5.0	5.0	5.0	6.0	4.9	5.0	---	---	---	5.1	4.9	4.9
25	5.1	5.0	5.0	5.0	5.0	5.0	---	---	---	4.9	4.8	4.9
26	6.2	5.1	5.6	6.2	5.0	5.2	---	---	---	---	---	---
27	5.5	5.1	5.3	5.3	5.1	5.2	---	---	---	---	---	---
28	5.7	5.6	5.7	6.0	5.2	5.6	---	---	---	---	---	---
29	5.7	5.5	5.6	6.0	5.7	5.8	---	---	---	---	---	---
30	5.6	5.5	5.5	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	6.7	4.8	5.5	6.2	4.7	5.1	---	---	---	5.1	4.8	4.9

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.5	14.5	16.0	---	---	---	6.5	5.5	6.0	---	---	---
2	17.0	15.0	16.0	---	---	---	6.0	5.0	5.5	---	---	---
3	16.5	14.0	15.0	---	---	---	5.0	2.0	3.5	---	---	---
4	14.5	12.5	13.5	---	---	---	2.0	1.0	2.0	---	---	---
5	13.5	11.5	12.5	---	---	---	3.5	2.0	2.5	---	---	---
6	14.5	10.0	11.5	---	---	---	6.0	3.5	5.0	---	---	---
7	15.0	11.0	12.5	---	---	---	7.5	6.0	7.0	---	---	---
8	16.5	11.5	13.0	---	---	---	10.0	7.5	8.5	---	---	---
9	15.0	12.5	14.0	---	---	---	10.0	9.0	9.5	---	---	---
10	15.0	13.0	14.0	---	---	---	9.0	6.0	8.0	---	---	---
11	16.0	13.0	14.0	---	---	---	6.0	3.5	4.5	---	---	---
12	13.0	11.0	12.5	---	---	---	4.5	3.0	3.5	---	---	---
13	12.0	9.0	10.5	---	---	---	5.5	4.5	5.0	---	---	---
14	11.0	8.5	9.5	---	---	---	5.0	2.5	3.5	---	---	---
15	13.5	8.5	10.5	---	---	---	2.0	1.5	1.5	---	---	---
16	10.5	10.0	10.0	---	---	---	2.5	1.5	2.0	---	---	---
17	16.5	11.5	13.5	---	---	---	2.5	1.0	2.0	---	---	---
18	16.0	14.0	15.0	---	---	---	2.0	.5	1.0	---	---	---
19	16.5	13.5	14.5	---	---	---	2.0	2.0	2.0	---	---	---
20	13.5	11.5	12.5	2.5	2.0	2.0	---	---	---	---	---	---
21	14.0	10.5	12.0	2.5	1.0	2.0	---	---	---	---	---	---
22	15.0	11.0	12.0	2.5	1.5	2.0	---	---	---	---	---	---
23	12.5	9.5	11.0	2.5	2.0	2.0	---	---	---	---	---	---
24	12.0	8.5	10.0	4.0	2.5	3.0	---	---	---	---	---	---
25	---	---	---	5.5	4.0	5.0	---	---	---	---	---	---
26	---	---	---	5.0	3.5	4.0	---	---	---	---	---	---
27	---	---	---	4.0	3.0	3.5	---	---	---	---	---	---
28	---	---	---	4.5	3.5	4.0	---	---	---	---	---	---
29	---	---	---	4.0	3.5	3.5	---	---	---	---	---	---
30	---	---	---	6.0	2.5	3.5	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	18.5	8.5	12.5	6.0	1.0	3.0	10.0	.5	4.5	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	6.0	4.5	5.5	---	---	---	---	---	---
2	---	---	---	4.5	3.0	4.0	---	---	---	---	---	---
3	---	---	---	3.0	2.0	2.5	---	---	---	---	---	---
4	---	---	---	2.5	1.0	2.0	---	---	---	---	---	---
5	---	---	---	2.5	1.5	2.0	---	---	---	---	---	---
6	---	---	---	3.5	2.0	2.5	---	---	---	---	---	---
7	---	---	---	3.0	2.0	2.5	10.5	6.5	8.5	---	---	---
8	---	---	---	2.5	2.0	2.5	13.5	9.0	11.5	---	---	---
9	---	---	---	4.0	2.5	3.0	12.5	11.0	12.0	---	---	---
10	---	---	---	4.5	3.0	3.5	---	---	---	---	---	---
11	---	---	---	4.5	3.5	4.0	---	---	---	---	---	---
12	---	---	---	5.0	2.5	4.0	---	---	---	---	---	---
13	---	---	---	6.5	4.0	5.5	11.0	9.0	9.5	---	---	---
14	---	---	---	---	---	---	11.0	9.0	10.0	---	---	---
15	---	---	---	---	---	---	10.5	8.0	9.5	---	---	---
16	---	---	---	---	---	---	10.5	7.5	8.5	---	---	---
17	---	---	---	---	---	---	11.0	10.0	10.5	---	---	---
18	2.0	1.0	1.0	2.5	.5	1.5	14.5	11.0	12.5	---	---	---
19	4.5	2.0	3.0	2.0	.5	1.0	13.5	11.0	12.0	---	---	---
20	5.5	4.5	5.0	1.5	.5	.5	11.5	10.0	10.5	---	---	---
21	5.5	4.0	4.5	3.0	1.0	2.0	10.5	8.0	9.0	---	---	---
22	7.5	4.5	5.0	4.0	1.0	2.5	10.0	8.0	9.0	---	---	---
23	7.5	6.0	7.0	5.5	3.0	4.0	12.0	9.5	10.5	---	---	---
24	5.5	5.0	5.0	6.0	3.5	5.0	11.5	9.5	10.5	---	---	---
25	5.5	4.5	5.0	6.5	4.0	5.5	9.5	6.5	7.5	---	---	---
26	7.0	4.0	5.5	7.0	4.0	5.5	10.5	6.0	8.0	---	---	---
27	---	---	---	7.0	6.0	6.5	13.0	10.0	11.5	---	---	---
28	6.0	4.0	5.0	8.0	4.0	6.5	---	---	---	17.5	16.5	17.0
29	---	---	---	9.5	6.0	7.5	---	---	---	17.0	16.0	16.5
30	---	---	---	---	---	---	---	---	---	16.5	14.5	16.0
31	---	---	---	---	---	---	---	---	---	17.5	16.5	17.0
MONTH	7.5	1.0	4.5	9.5	.5	3.5	14.5	6.0	10.0	17.5	14.5	16.5

POTOMAC RIVER BASIN

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.5	13.5	14.5	21.0	13.5	19.5				---	---	---
2	17.5	13.5	15.5	20.0	14.0	19.0				---	---	---
3	18.5	16.5	17.5	20.0	14.5	19.0				---	---	---
4	19.0	17.0	18.0	21.5	18.5	20.0				---	---	---
5	18.0	16.5	17.5	21.0	19.5	20.0				---	---	---
6	17.5	16.0	16.5	22.0	19.0	20.5				---	---	---
7	17.5	15.0	16.0	24.5	20.5	22.5				---	---	---
8	18.5	15.0	16.5	25.5	22.0	23.5				---	---	---
9	20.0	17.0	18.5	26.5	23.5	25.0				---	---	---
10	19.0	17.0	17.5	26.5	24.5	25.5				---	---	---
11	19.0	16.5	17.5	25.0	22.5	24.0				---	---	---
12	20.5	17.0	18.5	25.0	22.5	24.0				---	---	---
13	21.5	19.0	20.5	25.0	23.0	23.5				---	---	---
14	21.5	19.5	20.0	25.5	22.5	23.5				---	---	---
15	21.0	19.5	20.0	25.5	22.5	23.5				---	---	---
16	23.0	19.0	21.0	23.5	21.5	22.5				---	---	---
17	22.0	20.5	21.0	25.0	21.0	22.5				---	---	---
18	21.0	18.0	19.5	26.0	22.0	23.5				---	---	---
19	22.5	19.0	20.5	26.5	23.0	24.5				---	---	---
20	22.0	18.5	20.0	26.5	24.5	25.0				---	---	---
21	21.0	17.5	19.0	27.0	24.0	25.0				---	---	---
22	20.5	18.5	19.5	26.0	22.5	24.0				---	---	---
23	20.0	18.0	19.0	26.0	22.0	23.5				16.5	14.5	15.5
24	22.0	20.5	21.5	22.5	21.0	22.0				18.5	14.0	15.5
25	22.0	19.5	21.0	22.0	20.0	20.5				---	---	---
26	20.5	19.0	19.0	23.0	20.5	21.5				---	---	---
27	20.0	16.0	18.0	23.0	21.5	22.5				---	---	---
28	20.5	16.0	18.5	23.5	22.0	22.5				---	---	---
29	21.5	17.5	19.5	22.5	21.5	22.0				---	---	---
30	21.5	19.0	20.5	---	---	---				---	---	---
31	---	---	---	---	---	---				---	---	---
MONTH	23.0	13.5	18.5	27.0	18.0	22.5				18.5	14.0	15.5

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	11.4	10.8	11.2			
2	---	---	---	---	---	---	12.9	10.3	11.5			
3	---	---	---	---	---	---	13.9	13.0	13.6			
4	---	---	---	---	---	---	13.9	13.3	13.6			
5	---	---	---	---	---	---	13.4	12.6	13.1			
6	---	---	---	---	---	---	12.8	12.0	12.5			
7	---	---	---	---	---	---	12.1	11.6	11.9			
8	---	---	---	---	---	---	11.6	10.9	11.3			
9	---	---	---	---	---	---	11.4	11.0	11.1			
10	---	---	---	---	---	---	12.4	11.5	12.0			
11	---	---	---	---	---	---	13.4	12.5	13.0			
12	---	---	---	---	---	---	13.4	12.9	13.2			
13	---	---	---	---	---	---	12.9	12.6	12.7			
14	---	---	---	---	---	---	13.6	12.8	13.3			
15	---	---	---	---	---	---	14.0	13.5	13.8			
16	---	---	---	---	---	---	13.5	13.3	13.4			
17	6.9	6.5	6.7	---	---	---	13.8	13.4	13.6			
18	6.6	6.3	6.4	---	---	---	13.8	13.4	13.7			
19	6.4	6.3	6.3	---	---	---	---	---	---			
20	6.5	6.4	6.4	---	---	---	---	---	---			
21	6.5	6.4	6.5	13.1	12.7	12.8	---	---	---			
22	6.5	6.4	6.5	13.0	12.6	12.8	---	---	---			
23	6.5	6.4	6.5	12.8	12.6	12.7	---	---	---			
24	6.6	6.4	6.5	13.4	12.1	12.5	---	---	---			
25	---	---	---	13.4	12.7	13.1	---	---	---			
26	---	---	---	12.7	11.9	12.4	---	---	---			
27	---	---	---	11.9	11.6	11.7	---	---	---			
28	---	---	---	11.5	11.0	11.2	---	---	---			
29	---	---	---	11.2	11.0	11.1	---	---	---			
30	---	---	---	11.6	11.2	11.4	---	---	---			
31	---	---	---	---	---	---	---	---	---			
MONTH	6.9	6.3	6.5	13.4	11.0	12.2	14.0	10.3	12.7			

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	12.5	12.1	12.4	---	---	---	---	---	---
2	---	---	---	12.5	12.3	12.4	---	---	---	---	---	---
3	---	---	---	12.8	12.5	12.7	---	---	---	---	---	---
4	---	---	---	13.3	12.5	12.8	---	---	---	---	---	---
5	---	---	---	12.6	12.3	12.4	---	---	---	---	---	---
6	---	---	---	12.4	11.9	12.2	12.7	11.5	12.1	---	---	---
7	---	---	---	12.4	12.0	12.2	13.1	11.8	12.4	---	---	---
8	---	---	---	12.4	12.1	12.3	12.3	11.1	11.6	---	---	---
9	---	---	---	12.2	11.5	11.9	11.9	11.4	11.5	---	---	---
10	---	---	---	12.4	11.6	11.9	---	---	---	---	---	---
11	---	---	---	12.0	11.6	11.8	---	---	---	---	---	---
12	---	---	---	12.2	11.3	11.7	---	---	---	---	---	---
13	---	---	---	11.6	10.8	11.2	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	12.6	11.9	12.3	---	---	---
18	14.4	13.6	14.1	12.2	11.5	11.9	12.0	11.0	11.5	---	---	---
19	13.8	12.8	13.3	11.9	11.6	11.8	11.8	11.3	11.6	---	---	---
20	12.8	12.6	12.7	13.4	11.8	12.5	12.1	11.7	11.9	---	---	---
21	13.6	12.9	13.4	13.2	12.4	12.8	12.8	11.7	12.3	---	---	---
22	13.2	12.2	12.8	13.0	12.0	12.5	12.4	11.6	12.0	---	---	---
23	12.7	11.9	12.1	12.2	11.4	11.8	11.6	10.8	11.3	---	---	---
24	12.9	12.6	12.8	11.9	11.3	11.6	11.5	10.9	11.2	---	---	---
25	12.7	12.2	12.5	11.7	11.1	11.4	12.5	11.7	12.2	---	---	---
26	13.2	11.9	12.5	11.8	10.8	11.3	12.7	11.1	12.0	---	---	---
27	12.5	12.1	12.3	12.6	10.9	11.8	11.4	10.7	11.0	---	---	---
28	12.4	11.8	12.1	13.2	11.4	12.4	---	---	---	8.4	8.0	8.2
29	---	---	---	11.5	10.3	11.0	---	---	---	8.9	8.5	8.7
30	---	---	---	---	---	---	---	---	---	8.9	8.1	8.5
31	---	---	---	---	---	---	---	---	---	8.8	8.2	8.5
MONTH	14.4	11.8	12.8	13.4	10.3	12.0	13.1	10.7	11.8	8.9	8.0	8.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	9.1	8.7	9.0	8.0	7.6	7.8	---	---	---	---	---	---
2	9.1	8.1	8.6	8.1	7.7	7.9	---	---	---	---	---	---
3	8.2	7.7	8.0	7.9	7.5	7.8	---	---	---	---	---	---
4	8.6	7.9	8.3	7.7	7.1	7.4	---	---	---	---	---	---
5	8.9	8.3	8.6	7.4	7.1	7.3	---	---	---	---	---	---
6	9.1	8.3	8.8	7.4	6.9	7.2	---	---	---	---	---	---
7	9.0	8.1	8.6	7.2	6.6	6.9	---	---	---	---	---	---
8	8.3	7.8	8.1	7.7	6.7	7.1	---	---	---	---	---	---
9	8.0	7.4	7.8	7.5	6.8	7.2	---	---	---	---	---	---
10	8.3	7.6	8.0	7.2	6.8	6.9	---	---	---	---	---	---
11	8.2	7.5	7.9	7.5	6.9	7.1	---	---	---	---	---	---
12	8.7	7.5	7.9	7.4	6.9	7.1	---	---	---	---	---	---
13	8.1	7.5	7.8	7.2	6.9	7.1	---	---	---	---	---	---
14	9.1	7.5	8.4	7.2	6.8	7.0	---	---	---	---	---	---
15	9.1	7.8	8.5	7.2	6.8	7.0	---	---	---	---	---	---
16	7.9	7.2	7.6	7.2	6.9	7.1	---	---	---	---	---	---
17	7.5	7.3	7.4	7.3	6.8	7.0	---	---	---	---	---	---
18	7.8	7.1	7.5	7.1	6.6	6.9	---	---	---	---	---	---
19	7.4	6.7	7.1	6.9	6.4	6.7	---	---	---	---	---	---
20	7.6	6.7	7.3	6.6	6.2	6.4	---	---	---	---	---	---
21	7.7	6.8	7.3	6.6	6.2	6.4	---	---	---	---	---	---
22	7.3	6.8	7.0	6.8	6.4	6.6	---	---	---	---	---	---
23	7.1	6.8	7.0	7.0	6.5	6.8	---	---	---	9.7	9.4	9.5
24	---	---	---	6.9	6.7	6.8	---	---	---	9.8	9.0	9.5
25	8.9	8.3	8.6	7.3	6.9	7.1	---	---	---	---	---	---
26	9.7	8.7	9.3	7.1	6.2	6.8	---	---	---	---	---	---
27	9.6	8.7	9.1	6.3	5.7	6.0	---	---	---	---	---	---
28	9.4	8.3	8.9	7.9	5.7	6.7	---	---	---	---	---	---
29	8.9	7.9	8.4	---	---	---	---	---	---	---	---	---
30	8.2	7.6	7.9	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	9.7	6.7	8.1	8.1	5.7	7.0	---	---	---	9.8	9.0	9.5

POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi (0.3 km) downstream from Savage River, 0.5 mi (0.8 km) northwest of Luke, and at mile 53.3 (85.8 km).

DRAINAGE AREA.--404 mi² (1,046 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to July 1906 (published as "at Piedmont, W. Va."), October 1949 to current year.

REVISED RECORDS.--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 944.22 ft (287.798 m) National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi (1.8 km) downstream at datum about 35 ft (11 m) lower.

REMARKS.--Water-discharge records good except those for winter periods, which are fair to poor. Flow regulated since 1913 by Stony River Reservoir, 45 mi (72 km) above station (see station 01595200), since December 1950 by Savage River Reservoir, 5 mi (8 km) above station (see station 01597500), and since July 1981 by Bloomington Reservoir, 9 mi (14 km) above station (see station 01595800). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906.

AVERAGE DISCHARGE.--38 years (water years 1900-05, 1950-81), 714 ft³/s (20.22 m³/s), 24.00 in/yr (610 mm/yr), adjusted for storage since October 1949.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,400 ft³/s (1,120 m³/s) Oct. 15, 1954, gage height, 17.15 ft (5.227 m); minimum daily discharge, 6 ft³/s (0.17 m³/s) Sept. 4, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,330 ft³/s (151 m³/s) Apr. 13, gage height, 7.53 ft (2.295 m); minimum discharge, 90 ft³/s (2.55 m³/s) Aug. 21, Sept. 11, 12, gage height, 1.19 ft (0.363 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	183	910	260	280	1760	896	1060	1570	355	149	112
2	153	172	968	240	565	1320	965	2040	1560	525	136	120
3	144	161	1630	210	915	1240	807	1380	1260	521	132	334
4	146	155	1250	180	786	1030	728	1120	2090	447	140	1210
5	145	156	1080	150	592	806	730	1160	2480	409	124	1970
6	142	177	1000	135	444	866	744	1150	2760	398	140	1240
7	139	166	938	140	422	916	666	950	3280	387	148	510
8	121	158	847	180	393	833	573	725	1980	369	128	384
9	110	156	769	200	441	705	434	600	1530	344	118	366
10	137	178	1170	180	402	578	429	538	1890	365	121	210
11	145	234	920	170	512	559	517	584	2090	331	116	128
12	151	190	787	140	1050	532	1290	784	1540	260	125	96
13	143	171	893	130	824	554	4470	681	1200	205	142	107
14	134	161	940	120	783	774	3430	607	2600	149	119	107
15	133	156	838	130	701	683	3700	742	3240	145	121	116
16	133	158	639	135	612	676	2600	966	1350	125	120	360
17	129	175	458	130	801	669	1630	829	991	107	111	457
18	130	301	465	130	1260	598	1500	685	807	111	97	183
19	129	413	539	120	1730	602	1250	1340	669	108	99	181
20	127	230	469	125	2260	532	1170	2460	1240	114	100	181
21	128	186	358	130	2680	517	1080	1730	1440	128	98	181
22	126	178	214	140	2480	471	884	1360	1380	126	105	180
23	129	157	200	145	2380	463	781	1220	1110	112	107	174
24	128	1190	180	140	2740	505	998	1030	730	134	107	165
25	215	2470	170	135	2200	529	1090	676	624	175	107	165
26	569	1280	170	140	2010	517	976	621	1170	199	101	165
27	302	946	170	200	1240	1500	1170	610	781	323	113	165
28	213	912	195	500	1180	2340	1260	713	584	288	113	163
29	270	894	230	600	---	1250	958	1390	471	371	112	309
30	268	934	290	400	---	1080	911	1260	387	221	115	164
31	212	---	300	276	---	1060	---	1550	---	186	127	---
TOTAL	5309	12998	19987	6011	32683	26465	38637	32561	44804	8038	3691	10203
MEAN	171	433	645	194	1167	854	1288	1050	1493	259	119	340
MAX	569	2470	1630	600	2740	2340	4470	2460	3280	525	149	1970
MIN	110	155	170	120	280	463	429	538	387	107	97	96
CAL YR 1980	TOTAL	281775	MEAN	770	MAX	5010	MIN	110	CFSM	1.91	IN	25.95
WTR YR 1981	TOTAL	241387	MEAN	661	MAX	4470	MIN	96	CFSM	1.64	IN	22.23

POTOMAC RIVER BASIN

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01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1961 to December 1962, July to September 1963, December 1963 to September 1973, October 1974 to current year.

INSTRUMENTATION.--Temperature recorder during all periods.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (water years 1964-72, 1977, 1981): Maximum, 33.0°C July 3, 1966; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.0°C July 10; minimum, 1.5°C Jan. 13.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.0	15.0	16.0	9.5	7.5	8.5	8.0	6.5	7.5	2.5	2.0	2.5
2	17.0	15.5	16.0	8.5	7.5	8.0	7.5	6.5	7.0	2.5	2.0	2.5
3	16.0	14.5	15.0	9.0	6.5	8.0	6.5	4.5	5.5	2.5	2.5	2.5
4	15.0	13.5	14.5	10.0	8.5	9.5	4.5	3.5	4.0	2.5	2.0	2.5
5	14.0	13.0	13.5	9.5	9.0	9.5	5.0	4.0	4.5	2.5	2.0	2.5
6	14.0	11.5	12.5	9.0	7.5	8.0	6.5	5.0	5.5	2.5	2.0	2.5
7	14.5	12.0	13.0	9.5	7.5	8.5	8.5	7.0	7.5	2.5	2.0	2.5
8	14.5	12.0	13.5	10.5	9.5	10.0	10.0	8.5	9.0	2.5	2.0	2.5
9	14.0	13.0	13.5	11.0	9.5	10.0	10.5	10.0	10.0	2.5	2.5	2.5
10	14.0	13.0	13.5	10.5	8.5	9.5	10.0	8.0	9.5	2.5	2.0	2.5
11	15.0	13.0	13.5	8.5	6.5	7.5	8.0	6.0	7.0	2.5	2.0	2.0
12	13.5	12.0	12.5	7.0	5.5	6.5	6.0	5.5	5.5	2.5	2.0	2.0
13	12.0	11.5	12.0	7.5	5.5	6.5	7.0	5.5	6.5	2.5	1.5	2.0
14	11.5	10.0	10.5	8.0	6.0	7.0	6.5	4.5	5.5	2.0	2.0	2.0
15	13.0	10.0	11.5	8.5	8.0	8.0	4.5	3.5	4.0	2.0	2.0	2.0
16	13.5	11.0	12.5	8.0	7.0	8.0	4.5	3.5	4.0	2.0	2.0	2.0
17	14.5	12.0	13.0	7.0	4.0	5.5	4.0	3.5	4.0	2.0	2.0	2.0
18	14.5	13.5	14.0	5.5	4.0	4.5	4.0	3.5	3.5	2.0	2.0	2.0
19	14.5	13.0	13.5	4.5	3.5	4.0	4.0	3.0	4.0	2.5	2.0	2.0
20	13.0	12.0	12.5	5.0	4.0	4.5	3.0	2.5	3.0	2.5	2.0	2.5
21	13.0	11.5	12.5	5.0	4.0	4.5	3.0	2.5	3.0	2.5	2.5	2.5
22	13.0	11.5	12.5	5.5	4.0	5.0	3.0	2.5	3.0	2.5	2.5	2.5
23	12.0	10.5	11.0	5.5	4.5	5.0	3.0	2.5	3.0	2.5	2.5	2.5
24	11.0	10.0	10.5	6.0	5.5	5.5	3.0	2.5	2.5	3.0	2.5	2.5
25	11.0	9.5	10.5	7.0	6.5	6.5	2.5	2.5	2.5	3.0	3.0	3.0
26	9.0	7.5	8.0	6.5	5.5	5.5	2.5	2.0	2.5	3.0	2.0	2.5
27	8.5	7.0	8.0	5.5	5.0	5.0	2.5	2.0	2.5	2.5	2.5	2.5
28	9.5	8.0	8.5	6.0	5.0	5.5	2.5	2.0	2.5	2.5	2.0	2.5
29	9.5	8.5	9.0	5.5	5.0	5.5	2.5	2.0	2.5	2.5	2.5	2.5
30	9.0	7.5	8.5	6.0	5.0	5.0	2.5	2.0	2.5	2.5	2.5	2.5
31	9.0	6.5	8.0	---	---	---	2.5	2.0	2.5	2.5	2.5	2.5
MONTH	18.0	6.5	12.0	11.0	3.5	7.0	10.5	2.0	4.5	3.0	1.5	2.5

POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2.5	2.0	2.5	7.5	6.5	7.0	12.5	11.0	11.5	13.0	12.0	12.5
2	2.5	2.0	2.5	6.5	5.5	6.0	11.5	10.0	11.0	12.0	10.5	11.5
3	2.5	2.0	2.5	5.5	4.5	5.0	12.5	10.5	11.5	13.0	10.5	12.0
4	2.5	2.0	2.0	4.5	3.5	4.0	13.5	12.0	12.5	14.5	12.0	13.0
5	2.5	2.0	2.5	4.5	3.5	4.0	14.0	12.5	13.5	15.5	14.0	14.5
6	2.5	2.5	2.5	5.5	4.0	4.5	12.5	10.5	11.5	16.0	14.5	15.5
7	2.5	2.0	2.5	5.0	4.0	4.5	11.0	9.0	10.0	14.5	13.0	14.0
8	2.5	2.0	2.5	4.5	4.0	4.5	12.5	10.0	11.5	15.0	13.0	14.0
9	2.5	2.0	2.5	5.5	4.5	5.0	13.0	12.0	12.5	15.5	13.0	14.5
10	2.5	2.5	2.5	6.0	5.0	5.5	13.5	11.5	12.5	15.0	14.5	15.0
11	2.5	2.5	2.5	6.5	5.5	6.0	14.5	12.5	13.5	16.0	14.5	15.0
12	2.5	2.0	2.5	7.0	5.0	6.0	14.5	13.5	14.0	15.5	13.5	15.0
13	2.5	2.0	2.5	8.0	5.5	6.5	13.5	11.0	12.0	15.0	12.5	13.5
14	2.5	2.5	2.5	7.0	5.5	6.5	12.0	10.5	11.0	17.5	14.0	15.5
15	3.0	2.5	2.5	7.0	4.5	5.5	11.5	10.5	11.0	17.0	16.0	16.5
16	3.0	2.0	2.5	6.5	5.0	6.0	11.5	9.5	10.5	16.0	13.5	14.5
17	3.0	2.5	2.5	5.0	3.0	4.0	12.5	11.5	12.0	15.0	12.5	13.5
18	3.5	2.5	3.0	5.0	2.5	3.5	14.5	12.5	13.5	14.5	13.5	14.0
19	5.5	3.0	4.5	4.5	3.5	4.0	14.5	13.0	13.5	13.5	11.5	12.5
20	6.5	5.5	6.0	4.5	2.5	3.5	13.0	12.5	12.5	13.0	11.0	12.0
21	6.5	5.5	6.0	5.0	3.5	4.0	12.0	10.5	11.5	14.5	12.5	13.5
22	8.0	6.0	7.0	5.5	3.5	4.5	11.5	10.5	11.0	15.5	13.5	15.0
23	8.5	7.5	8.0	7.5	5.0	6.0	12.5	11.5	12.0	16.5	14.5	15.5
24	7.0	6.0	6.5	7.5	5.5	6.5	12.5	12.0	12.5	18.0	15.5	16.5
25	6.5	5.5	6.0	8.0	6.0	7.0	12.0	9.5	10.5	18.5	16.5	17.5
26	7.5	5.5	6.5	8.5	6.5	7.5	11.5	9.0	10.0	19.0	17.5	18.5
27	7.0	5.5	6.5	9.0	7.5	8.0	14.0	11.5	12.5	18.5	17.5	18.0
28	7.0	6.0	6.5	9.0	6.5	7.5	15.0	13.0	14.0	18.0	17.0	17.5
29	---	---	---	10.0	8.0	9.0	15.5	14.5	15.0	17.5	16.5	17.0
30	---	---	---	11.0	10.0	10.5	14.5	13.0	14.0	17.5	16.0	17.0
31	---	---	---	12.5	10.5	11.5	---	---	---	18.5	17.5	18.0
MONTH	8.5	2.0	4.0	12.5	2.5	6.0	15.5	9.0	12.0	19.0	10.5	15.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.0	15.0	16.0	21.0	19.5	20.0	23.5	21.0	22.0	23.5	21.5	22.5
2	17.5	15.0	16.0	20.0	19.5	20.0	23.5	21.0	22.5	23.5	22.0	22.5
3	18.5	17.0	17.5	20.0	19.5	20.0	23.5	22.0	23.0	22.5	22.5	22.5
4	19.5	17.5	18.5	21.0	19.5	20.0	24.0	22.0	23.0	22.0	21.0	21.5
5	19.0	18.0	18.5	21.0	20.0	20.5	25.0	22.5	23.5	22.0	20.5	21.5
6	18.0	17.0	17.5	21.5	19.5	20.5	23.5	22.0	22.5	22.5	21.0	21.5
7	17.5	16.0	17.0	24.0	20.5	22.0	23.0	21.0	22.0	23.0	21.0	22.0
8	18.5	16.5	17.5	24.5	22.0	23.0	24.5	22.0	23.0	22.0	20.5	21.5
9	20.0	18.0	19.0	25.5	23.5	24.5	24.5	22.0	23.5	22.0	20.0	21.0
10	20.0	18.0	19.0	26.0	24.5	25.0	25.0	22.0	23.5	21.5	18.5	20.0
11	19.0	17.5	18.5	25.5	23.0	24.0	24.5	22.5	23.5	22.0	19.5	20.5
12	20.5	18.0	19.0	25.0	22.5	23.5	25.0	22.5	23.5	23.0	19.0	21.0
13	21.5	20.0	20.5	24.0	22.5	23.0	24.0	22.5	23.0	23.0	19.5	21.0
14	21.5	20.5	21.0	25.0	22.5	23.5	24.5	22.0	23.0	22.5	19.5	21.0
15	21.5	20.0	21.0	24.0	22.0	23.0	23.5	22.5	23.0	21.0	20.5	21.0
16	22.5	20.5	21.5	23.0	21.5	22.0	24.5	22.5	23.5	20.5	19.0	19.5
17	22.5	21.5	22.0	24.5	21.0	23.0	23.5	20.5	22.0	20.5	19.0	19.5
18	21.0	19.5	20.5	25.0	21.5	23.5	23.0	19.0	21.0	20.0	18.0	19.0
19	22.0	20.0	21.0	25.0	22.0	24.0	22.5	18.5	20.5	18.5	17.0	17.5
20	21.5	20.0	21.0	25.0	23.5	24.5	23.0	19.0	21.0	17.0	16.0	16.5
21	21.0	19.0	19.5	25.0	23.5	24.0	23.0	18.5	21.0	19.0	16.5	17.5
22	21.0	20.0	20.5	24.5	23.0	23.5	23.5	20.0	21.5	19.0	17.5	18.5
23	21.0	19.5	20.5	24.5	21.5	23.0	23.0	19.0	21.0	18.0	16.0	17.0
24	21.5	19.5	20.5	23.0	21.5	22.0	23.0	20.0	21.5	17.0	14.5	15.5
25	22.5	20.5	21.5	23.5	21.5	22.5	23.0	20.0	21.5	18.0	14.5	16.0
26	21.0	19.5	20.0	23.5	22.0	22.5	23.0	19.5	21.5	19.5	16.0	17.5
27	20.0	18.0	19.0	24.0	22.0	23.0	23.5	20.5	22.0	19.0	17.0	18.0
28	20.5	18.0	19.5	23.5	22.0	23.0	24.0	21.0	22.5	18.5	16.0	17.0
29	21.0	19.0	20.0	23.0	22.0	22.5	24.0	21.5	23.0	16.0	14.0	15.5
30	21.5	20.0	20.5	23.5	20.0	22.0	23.5	21.5	22.5	16.5	15.5	16.0
31	---	---	---	23.0	20.5	22.0	22.5	22.0	22.0	---	---	---
MONTH	22.5	15.0	19.5	26.0	19.5	22.5	25.0	18.5	22.5	23.5	14.0	19.5

POTOMAC RIVER BASIN

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01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD

LOCATION.--Lat 39°33'59", long 78°50'25", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge at Pinto, 2.8 mi (4.5 km) downstream from Mill Run, and at mile 32.6 (52.5 km).

DRAINAGE AREA.--596 mi² (1,544 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year.

REVISED RECORDS.--WSP 1332: 1943.

GAGE.--Water-stage recorder. Datum of gage is 648.23 ft (197.581 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 10, 1938, nonrecording gage at highway bridge 250 ft (76 m) downstream at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Some regulation at low flow by Stony River Reservoir, 66 mi (106 km) above station (see station 01595200) prior to July 1981. Low-flow regulation since December 1950 by Savage River Reservoir, 25 mi (40 km) above station (see station 01597500). Flow regulated by Bloomington Reservoir, 29 mi (47 km) above station (see station 01595800) since July 1981.

AVERAGE DISCHARGE.--43 years, 890 ft³/s (25.20 m³/s), 20.28 in/yr (515 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,000 ft³/s (1,050 m³/s) Oct. 16, 1954, gage height, 23.23 ft (7.081 m); minimum discharge, 31 ft³/s (0.88 m³/s) Dec. 18, 19, 1943, gage height, 1.37 ft (0.418 m), result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1924, reached a stage of about 24 ft (7.3 m), discharge, about 55,000 ft³/s (1,560 m³/s). Flood of Mar. 17, 1936, reached a stage of about 23.5 ft (7.16 m), from floodmarks, discharge, about 50,000 ft³/s (1,420 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,340 ft³/s (208 m³/s) Apr. 13, gage height, 9.75 ft (2.972 m); minimum discharge, 106 ft³/s (3.00 m³/s) Oct. 9, 10, Aug. 21, 22, gage height 1.80 ft (0.549 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	204	1190	295	303	2030	1080	1230	2110	427	207	205
2	178	187	1010	280	548	1650	1130	2550	2000	619	187	188
3	168	176	1770	255	1130	1070	984	1860	1710	726	171	271
4	171	171	1470	220	895	1320	875	1420	2460	602	198	1080
5	166	168	1210	180	716	995	854	1390	3100	540	174	2240
6	164	176	1110	170	439	1010	871	1430	2940	501	178	1710
7	159	187	1070	170	432	1110	793	1190	3830	479	239	651
8	156	176	922	210	424	1010	699	885	2480	432	201	475
9	124	173	883	215	403	887	535	739	1940	407	168	417
10	147	171	1330	200	483	726	506	649	2110	390	154	331
11	166	227	1110	190	485	711	506	766	2490	395	152	213
12	168	213	905	180	1270	693	1660	1360	1890	322	143	140
13	171	187	958	165	922	708	6190	1050	1470	272	172	135
14	156	178	1060	150	811	953	4880	883	2190	203	156	139
15	150	171	948	165	746	907	4630	903	3940	199	148	158
16	145	176	784	170	665	846	3390	1280	1740	165	156	361
17	143	184	521	165	865	872	2250	1070	1250	148	148	813
18	140	239	476	150	1420	757	1990	889	1030	150	129	278
19	140	501	579	135	2010	746	1720	1530	845	148	119	251
20	138	295	515	145	2840	668	1520	3110	1400	153	120	239
21	138	222	408	156	3440	635	1450	2290	1890	175	116	235
22	138	204	265	164	3160	586	1180	1770	1690	166	119	229
23	138	192	264	172	3020	546	1030	1550	1450	155	123	224
24	140	1000	295	166	3610	571	1190	1310	919	206	126	208
25	269	3160	279	161	2850	619	1330	888	750	239	126	202
26	615	1610	241	164	2410	597	1240	742	1430	264	123	202
27	396	1090	227	229	1740	1270	1270	752	1040	333	122	201
28	249	1020	234	562	1350	2810	1620	861	724	385	131	197
29	230	1010	255	623	---	1570	1190	2530	573	514	130	280
30	299	907	271	598	---	1270	1090	2000	476	308	133	264
31	236	---	319	299	---	1260	---	2080	---	262	188	---
TOTAL	5969	14575	22879	7104	39387	31403	49653	42957	53867	10285	4757	12537
MEAN	193	486	738	229	1407	1013	1655	1386	1796	332	153	418
MAX	615	3160	1770	623	3610	2810	6190	3110	3940	726	239	2240
MIN	124	168	227	135	303	546	506	649	476	148	116	135
CAL YR 1980	TOTAL	353041	MEAN 965	MAX 6940	MIN 124	CFSM 1.62	IN 22.04					
WTR YR 1981	TOTAL	295373	MEAN 809	MAX 6190	MIN 116	CFSM 1.36	IN 18.44					

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

pH: October 1980 to September 1981.

WATER TEMPERATURES: October 1980 to September 1981.

DISSOLVED OXYGEN: October 1980 to September 1981.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT												
23...	1430	147	1060	6.9	12.5	12.8	8.5	280	230	.0	.0	92
NOV												
18...	1330	256	911	7.0	3.0	4.9	11.5	260	210	.1	5.0	96
DEC												
16...	1135	306	340	6.5	2.0	2.8	13.7	93	75	.0	.0	29
MAR												
04...	1300	1450	269	6.4	2.0	2.6	12.1	--	--	.0	.0	--
APR												
06...	1415	891	--	--	--	--	--	150	140	.0	.0	50
JUN												
19...	0845	865	340	6.1	21.0	15.1	8.1	--	--	.0	.0	--
JUL												
23...	1115	164	1100	8.4	25.0	26.0	10.3	--	--	.0	.0	--
AUG												
25...	0800	126	1186	6.9	17.0	20.6	6.8	410	360	.0	.0	140

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM 40 DIS- SOLVED (PC/L AS K40)	ALKA- LITY FIELD MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT												
23...	11	95	42	2.5	7.2	--	57	250	140	.1	6.0	733
NOV												
18...	10	75	38	2.0	4.4	--	--	200	130	.1	6.0	634
DEC												
16...	5.0	21	32	.9	1.9	--	74	77	31	.1	5.4	202
MAR												
04...	--	--	--	--	--	--	10	63	--	--	--	168
APR												
06...	6.5	19	21	.7	1.6	1.2	13	110	31	.1	5.5	250
JUN												
19...	--	--	--	--	--	--	10	120	--	--	--	259
JUL												
23...	--	--	--	--	--	--	42	320	--	--	--	752
AUG												
25...	14	100	34	2.2	5.4	--	45	310	170	.1	5.1	918

DATE	SOLIDS, SUM OF CONSILI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT												
23...	6.1	1.0	291	.20	410	200	210	800	30	770	11	4.4
NOV												
18...	5.1	.86	438	--	480	310	170	610	0	590	24	20
DEC												
16...	182	.27	167	--	630	530	100	500	50	450	--	--
MAR												
04...	--	.23	658	--	1100	960	140	350	20	330	--	--
APR												
06...	229	.34	601	--	840	730	110	560	0	620	--	--
JUN												
19...	--	.35	605	--	710	650	60	620	50	570	--	--
JUL												
23...	--	1.0	333	--	310	230	80	750	150	600	--	--
AUG												
25...	772	1.3	312	--	910	620	290	910	80	830	--	--

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	749	698	730	---	---	---	---	---	---
2	---	---	---	815	748	784	---	---	---	---	---	---
3	---	---	---	831	803	817	347	238	289	---	---	---
4	999	927	967	890	824	864	252	218	244	---	---	---
5	1030	995	1010	932	840	876	279	219	257	---	---	---
6	1150	1030	1090	944	866	921	280	261	274	---	---	---
7	1150	1110	1130	852	731	757	285	274	280	---	---	---
8	1140	1120	1130	880	743	818	327	282	308	---	---	---
9	1140	1110	1120	938	878	901	326	306	313	---	---	---
10	1360	1120	1190	996	993	973	392	297	340	---	---	---
11	1360	1030	1190	1000	968	985	317	286	301	---	---	---
12	1080	1030	1060	935	789	834	357	307	335	---	---	---
13	1080	1070	1080	900	843	876	380	345	360	---	---	---
14	1070	993	1030	920	816	874	332	288	302	---	---	---
15	1210	1050	1120	885	818	867	336	308	319	1110	930	1020
16	1220	1050	1130	906	800	868	341	297	317	1050	880	994
17	1130	1050	1100	900	809	865	493	340	427	1160	932	1110
18	1120	1080	1110	916	776	873	521	493	501	1220	1170	1200
19	1120	1100	1110	---	---	---	568	425	483	1240	1200	1220
20	1150	1110	1120	581	510	540	477	440	461	1220	1200	1210
21	1150	1090	1110	717	583	655	491	381	435	1220	1080	1120
22	1110	1050	1080	822	711	766	491	377	437	1160	1030	1100
23	1130	1060	1080	855	821	835	812	479	705	1000	860	904
24	1160	1070	1120	843	387	718	784	730	758	956	860	908
25	1150	467	945	329	208	222	748	442	551	975	924	951
26	910	470	710	---	---	---	503	458	484	1020	936	987
27	640	390	520	---	---	---	753	474	557	1100	1000	1070
28	500	290	410	---	---	---	779	731	757	1050	505	719
29	460	250	350	---	---	---	757	646	700	505	456	474
30	560	350	460	---	---	---	---	---	---	494	380	407
31	700	331	567	---	---	---	---	---	---	567	397	473
MONTH	1360	250	967	1000	208	801	812	218	426	1240	380	933

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	642	560	602	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	398	369	385
10	---	---	---	---	---	---	---	---	---	452	392	422
11	---	---	---	---	---	---	---	---	---	465	426	452
12	---	---	---	---	---	---	---	---	---	412	306	326
13	---	---	---	---	---	---	---	---	---	342	329	335
14	---	---	---	---	---	---	---	---	---	379	336	355
15	---	---	---	---	---	---	---	---	---	385	362	368
16	---	---	---	---	---	---	---	---	---	380	321	333
17	---	---	---	---	---	---	---	---	---	331	309	322
18	---	---	---	---	---	---	---	---	---	332	319	325
19	---	---	---	---	---	---	---	---	---	348	256	322
20	---	---	---	---	---	---	---	---	---	250	193	206
21	---	---	---	---	---	---	---	---	---	222	194	208
22	---	---	---	---	---	---	---	---	---	254	223	237
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	642	560	602	---	---	---	---	---	---	465	193	328

POTOMAC RIVER BASIN

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHCS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	560	529	544	---	---	---	1040	790	954
2	---	---	---	605	502	568	---	---	---	1090	890	1010
3	---	---	---	523	477	500	---	---	---	1020	800	935
4	---	---	---	538	500	522	---	---	---	970	460	668
5	---	---	---	542	527	535	---	---	---	480	350	393
6	---	---	---	581	541	563	---	---	---	350	310	318
7	---	---	---	599	575	587	986	769	898	490	320	401
8	---	---	---	637	599	619	919	669	854	400	340	360
9	---	---	---	654	625	639	969	762	890	370	340	357
10	---	---	---	645	612	622	999	927	964	450	370	413
11	---	---	---	628	571	600	1170	1080	1140	590	480	560
12	---	---	---	630	573	604	1210	1110	1150	750	590	726
13	---	---	---	686	618	652	1260	1210	1240	1100	750	831
14	---	---	---	724	664	691	1190	879	1010	1290	1130	1230
15	---	---	---	860	713	815	1060	828	945	1220	1110	1150
16	---	---	---	914	823	865	1140	1030	1100	1100	740	930
17	---	---	---	1100	916	1000	1220	1140	1170	780	420	537
18	---	---	---	1180	1090	1130	1220	1050	1140	700	440	494
19	---	---	---	1180	1100	1140	1270	1080	1150	760	700	748
20	---	---	---	1180	1150	1160	---	---	---	770	740	756
21	---	---	---	1220	1170	1200	---	---	---	790	780	787
22	274	253	263	1190	1090	1140	1370	1170	1350	800	770	789
23	292	247	260	1080	955	1010	1380	1310	1350	770	650	715
24	382	294	339	1120	1030	1070	1340	1270	1300	710	600	641
25	410	384	397	1110	807	933	1290	1230	1260	850	710	798
26	428	296	367	1010	915	961	1330	1290	1320	860	810	840
27	371	293	334	---	---	---	1290	1240	1260	810	770	788
28	419	375	402	---	---	---	1290	1240	1260	880	810	859
29	469	421	439	---	---	---	1250	1190	1220	890	820	844
30	527	473	503	---	---	---	1270	1080	1220	880	370	556
31	---	---	---	---	---	---	1170	1020	1120	---	---	---
MONTH	527	247	367	1220	477	795	1380	669	1140	1290	310	713

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.5	7.3	7.4	7.4	7.2	7.3	---	---	---	---	---	---
2	7.4	7.4	7.4	7.4	7.3	7.4	7.2	7.1	7.2	---	---	---
3	7.5	7.4	7.4	7.5	7.4	7.4	7.2	7.0	7.1	---	---	---
4	7.5	7.4	7.4	7.5	7.4	7.5	7.2	7.2	7.2	---	---	---
5	7.6	7.4	7.5	7.6	7.4	7.5	7.2	7.2	7.2	---	---	---
6	7.6	7.5	7.5	7.7	7.5	7.6	7.2	7.2	7.2	---	---	---
7	7.6	7.4	7.5	7.6	7.5	7.6	7.3	7.1	7.2	---	---	---
8	7.7	7.4	7.5	7.6	7.4	7.6	7.3	7.2	7.2	---	---	---
9	7.6	7.5	7.5	7.6	7.4	7.5	7.3	7.2	7.2	---	---	---
10	7.6	7.5	7.5	7.6	7.5	7.6	7.4	7.1	7.2	---	---	---
11	7.7	7.4	7.6	7.7	7.6	7.7	7.3	7.1	7.3	---	---	---
12	7.4	7.4	7.4	7.7	7.6	7.6	7.3	7.2	7.3	---	---	---
13	7.5	7.4	7.4	7.8	7.7	7.7	7.3	7.2	7.3	---	---	---
14	7.5	7.4	7.5	7.7	7.6	7.7	7.3	7.2	7.3	---	---	---
15	7.5	7.4	7.4	7.8	7.7	7.7	7.4	7.3	7.3	7.6	7.5	7.6
16	7.4	7.3	7.4	7.8	7.7	7.7	7.4	7.3	7.4	7.6	7.6	7.6
17	7.5	7.3	7.4	7.7	7.7	7.7	7.5	7.4	7.5	7.7	7.6	7.7
18	7.4	7.3	7.4	7.7	7.6	7.7	7.5	7.3	7.4	7.7	7.6	7.6
19	7.3	7.3	7.3	---	---	---	7.3	7.3	7.3	7.7	7.6	7.6
20	7.3	7.2	7.3	7.4	7.1	7.3	7.4	7.3	7.3	7.7	7.6	7.7
21	7.3	7.3	7.3	7.4	7.3	7.4	7.5	7.3	7.4	7.6	7.4	7.5
22	7.4	7.3	7.3	7.5	7.4	7.4	7.5	7.4	7.4	7.6	7.5	7.5
23	7.5	7.3	7.4	7.7	7.4	7.5	7.6	7.4	7.5	7.6	7.5	7.6
24	7.5	7.4	7.5	7.7	6.7	7.4	7.5	7.4	7.5	7.7	7.6	7.6
25	7.8	7.5	7.6	6.8	6.6	6.7	7.4	7.1	7.2	7.7	7.6	7.6
26	7.7	6.9	7.3	---	---	---	7.1	7.0	7.0	7.6	7.5	7.6
27	7.2	6.9	7.0	---	---	---	7.3	7.0	7.1	7.6	7.5	7.6
28	7.4	7.2	7.3	---	---	---	7.3	7.2	7.2	7.5	7.1	7.3
29	7.5	7.4	7.4	---	---	---	7.3	7.2	7.3	7.3	7.1	7.2
30	7.5	7.3	7.4	---	---	---	---	---	---	7.3	7.1	7.2
31	7.3	7.2	7.2	---	---	---	---	---	---	7.5	7.3	7.4
MONTH	7.8	6.9	7.4	7.8	6.6	7.5	7.6	7.0	7.3	7.7	7.1	7.5

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.5	7.4	7.5							---	---	---
2	7.5	7.4	7.4							---	---	---
3	---	---	---							---	---	---
4	---	---	---							---	---	---
5	---	---	---							---	---	---
6	---	---	---							---	---	---
7	---	---	---							---	---	---
8	---	---	---							7.4	7.3	7.3
9	---	---	---							7.4	7.2	7.3
10	---	---	---							7.3	7.2	7.2
11	---	---	---							7.2	7.1	7.2
12	---	---	---							7.6	7.2	7.3
13	---	---	---							7.4	7.2	7.3
14	---	---	---							7.4	7.2	7.3
15	---	---	---							7.3	7.1	7.2
16	---	---	---							7.1	6.9	7.0
17	---	---	---							7.2	7.1	7.1
18	---	---	---							7.2	7.1	7.1
19	---	---	---							7.2	7.1	7.2
20	---	---	---							7.1	6.9	7.0
21	---	---	---							7.2	7.0	7.1
22	---	---	---							7.2	7.0	7.1
23	---	---	---							---	---	---
24	---	---	---							---	---	---
25	---	---	---							---	---	---
26	---	---	---							---	---	---
27	---	---	---							---	---	---
28	---	---	---							---	---	---
29	---	---	---							---	---	---
30	---	---	---							---	---	---
31	---	---	---							---	---	---
MONTH	7.5	7.4	7.5							7.6	6.9	7.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.3	7.1	7.2	---	---	---	7.4	7.1	7.2
2	---	---	---	7.3	7.1	7.2	---	---	---	7.4	7.2	7.3
3	---	---	---	7.1	7.1	7.1	---	---	---	7.3	7.2	7.2
4	---	---	---	7.3	7.1	7.2	---	---	---	7.3	6.8	7.0
5	---	---	---	7.2	7.1	7.2	---	---	---	6.8	6.6	6.7
6	---	---	---	7.3	7.2	7.2	---	---	---	6.8	6.7	6.8
7	---	---	---	7.3	7.1	7.2	7.4	7.2	7.3	7.0	6.7	6.9
8	---	---	---	7.4	7.1	7.2	7.7	7.2	7.5	6.9	6.8	6.8
9	---	---	---	7.3	7.1	7.2	7.9	7.2	7.5	7.0	6.8	6.9
10	---	---	---	7.5	7.1	7.3	7.6	7.3	7.4	7.3	6.8	7.1
11	---	---	---	7.5	7.1	7.3	8.0	7.5	7.7	7.4	7.1	7.2
12	---	---	---	7.7	7.1	7.4	7.9	7.4	7.6	7.7	7.0	7.3
13	---	---	---	7.4	7.2	7.3	7.8	7.4	7.6	7.5	7.2	7.4
14	---	---	---	7.7	7.2	7.4	8.0	7.3	7.6	7.5	7.3	7.4
15	---	---	---	8.0	7.3	7.6	7.8	7.3	7.5	7.4	7.2	7.3
16	---	---	---	8.1	7.4	7.6	7.6	7.2	7.4	7.3	7.2	7.3
17	---	---	---	8.4	7.4	7.8	7.5	7.1	7.3	7.3	6.7	6.9
18	---	---	---	8.8	7.3	8.0	7.5	7.0	7.1	7.3	6.7	7.0
19	---	---	---	8.7	7.5	8.0	7.4	7.1	7.2	7.5	7.2	7.3
20	---	---	---	8.4	7.4	7.8	---	---	---	7.4	7.4	7.4
21	---	---	---	7.9	7.4	7.6	---	---	---	7.7	7.3	7.7
22	7.0	6.9	7.0	8.3	7.4	7.7	7.4	7.0	7.2	7.7	7.4	7.6
23	7.0	6.9	6.9	8.8	7.4	8.1	7.6	7.0	7.2	7.8	7.4	7.5
24	7.2	6.9	7.0	7.8	7.4	7.6	7.6	7.2	7.4	8.2	7.4	7.7
25	7.2	7.1	7.2	7.6	7.3	7.4	7.6	7.3	7.4	8.5	7.6	7.8
26	7.2	6.9	7.1	7.6	7.3	7.4	7.7	7.3	7.5	8.3	7.5	7.8
27	7.2	7.0	7.1	---	---	---	7.4	7.2	7.3	8.2	7.4	7.8
28	7.3	7.0	7.2	---	---	---	7.5	7.1	7.3	8.0	7.6	7.7
29	7.4	7.2	7.3	---	---	---	7.9	7.3	7.5	7.9	7.5	7.7
30	7.4	7.3	7.3	---	---	---	7.8	7.4	7.5	7.8	7.3	7.5
31	---	---	---	---	---	---	7.4	7.3	7.3	---	---	---
MONTH	7.4	6.9	7.1	8.8	7.1	7.5	8.0	7.0	7.4	8.5	6.6	7.3

POTOMAC RIVER BASIN

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.5	16.5	18.0	11.5	9.5	10.5	---	---	---	---	---	---
2	18.0	17.5	18.0	11.0	9.0	10.0	---	---	---	---	---	---
3	18.0	16.0	17.0	11.0	8.5	10.0	6.5	4.0	5.0	---	---	---
4	16.5	15.0	16.0	12.0	10.0	11.0	4.0	3.0	3.5	---	---	---
5	15.5	14.5	15.0	12.0	11.0	11.5	4.5	3.5	4.0	---	---	---
6	15.5	13.0	15.0	11.0	9.5	10.0	6.5	4.5	5.0	---	---	---
7	16.0	13.5	14.5	11.5	9.5	10.5	8.5	6.5	7.5	---	---	---
8	17.0	14.0	15.5	12.5	11.5	12.0	10.0	8.5	9.5	---	---	---
9	17.5	15.5	16.5	13.5	11.5	12.5	10.5	9.5	10.0	---	---	---
10	16.5	15.5	16.0	13.0	11.5	12.5	9.5	8.0	9.0	---	---	---
11	17.5	15.5	16.0	11.0	9.0	10.0	8.0	6.0	7.0	---	---	---
12	15.5	14.0	14.5	9.5	8.0	8.5	6.0	5.5	5.5	---	---	---
13	14.0	12.5	13.5	10.0	8.0	9.0	6.5	6.0	6.0	---	---	---
14	13.0	11.5	12.0	11.0	9.0	10.0	6.0	4.5	5.0	---	---	---
15	14.5	11.5	13.0	11.5	11.0	11.0	5.0	3.5	4.0	.5	.0	.5
16	16.0	13.0	14.5	12.0	10.5	11.5	4.0	3.5	4.0	.5	.0	.5
17	17.5	14.5	16.0	10.5	7.0	9.0	4.5	3.5	4.0	.5	.0	.5
18	17.5	16.5	17.0	7.5	6.5	7.0	4.5	3.5	3.5	.5	.5	.5
19	18.0	16.5	17.5	---	---	---	5.0	3.5	4.5	.5	.0	.5
20	16.5	14.5	15.5	5.5	4.0	4.5	3.0	1.0	2.0	1.0	.0	.5
21	16.0	13.5	14.5	6.0	4.0	5.0	2.0	.5	1.0	3.5	1.0	2.5
22	15.5	13.5	14.5	6.5	5.0	5.5	6.5	.5	1.5	5.5	3.0	4.5
23	14.5	12.5	13.5	6.5	5.0	6.0	3.0	1.0	2.0	4.5	4.0	4.5
24	14.5	12.0	13.5	8.0	5.5	6.5	4.5	3.0	4.0	4.5	3.0	4.0
25	17.5	13.5	14.0	6.0	5.0	5.5	3.5	1.0	2.0	4.5	2.0	3.5
26	16.5	11.0	14.0	---	---	---	3.0	.5	1.0	5.5	3.0	4.5
27	17.5	11.0	13.5	---	---	---	3.5	.5	1.5	6.5	5.0	6.0
28	19.0	15.5	17.0	---	---	---	1.5	.5	1.0	6.0	3.0	4.5
29	19.5	17.5	18.5	---	---	---	1.5	1.0	1.0	3.5	2.0	2.5
30	19.0	16.5	17.0	---	---	---	---	---	---	2.5	1.0	1.5
31	17.5	10.0	13.0	---	---	---	---	---	---	2.5	.0	1.0
MONTH	19.5	10.0	15.5	13.5	4.0	9.0	10.5	.5	4.0	6.5	.0	2.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.0	.0	1.0	---	---	---	---	---	---	---	---	---
2	3.5	2.0	2.5	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	16.5	14.5	15.5
10	---	---	---	---	---	---	---	---	---	17.5	16.0	17.0
11	---	---	---	---	---	---	---	---	---	18.0	16.5	17.0
12	---	---	---	---	---	---	---	---	---	17.5	14.0	15.5
13	---	---	---	---	---	---	---	---	---	15.5	13.0	14.0
14	---	---	---	---	---	---	---	---	---	18.5	15.5	17.0
15	---	---	---	---	---	---	---	---	---	18.5	17.0	18.0
16	---	---	---	---	---	---	---	---	---	17.0	14.5	15.5
17	---	---	---	---	---	---	---	---	---	15.5	13.5	14.5
18	---	---	---	---	---	---	---	---	---	15.5	14.5	15.0
19	---	---	---	---	---	---	---	---	---	14.0	12.0	13.0
20	---	---	---	---	---	---	---	---	---	14.5	11.0	12.5
21	---	---	---	---	---	---	---	---	---	16.0	12.5	14.0
22	---	---	---	---	---	---	---	---	---	17.0	14.0	15.5
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	3.5	.0	2.0	---	---	---	---	---	---	18.5	11.0	15.5

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	23.0	21.5	22.5	---	---	---	25.0	23.0	24.0
2	---	---	---	22.5	21.5	22.0	---	---	---	25.0	23.5	24.0
3	---	---	---	22.0	21.0	21.5	---	---	---	24.0	23.0	23.5
4	---	---	---	22.5	21.0	21.5	---	---	---	23.0	18.0	20.5
5	---	---	---	22.5	22.0	22.5	---	---	---	20.5	17.5	19.0
6	---	---	---	24.5	21.5	23.0	---	---	---	21.5	17.5	19.0
7	---	---	---	26.0	23.0	24.5	25.5	24.0	24.5	22.0	19.0	20.5
8	---	---	---	27.5	24.5	26.0	28.5	24.0	26.0	22.0	20.5	21.0
9	---	---	---	28.5	26.0	27.5	28.5	25.0	27.0	21.5	18.5	19.5
10	---	---	---	29.5	27.0	28.0	28.5	24.5	26.5	21.0	18.0	19.5
11	---	---	---	28.0	25.5	26.5	28.0	25.0	26.5	22.5	19.0	20.5
12	---	---	---	28.0	24.5	26.5	28.0	25.5	26.5	24.5	20.5	22.5
13	---	---	---	27.0	25.5	26.0	27.0	24.5	25.5	25.0	21.0	23.0
14	---	---	---	28.0	25.0	26.0	27.0	24.5	25.5	25.5	22.0	23.5
15	---	---	---	27.5	24.0	25.5	26.5	24.0	25.5	24.0	22.5	23.5
16	---	---	---	25.0	24.0	24.5	27.0	24.0	25.5	22.5	20.5	21.5
17	---	---	---	27.0	22.5	24.5	25.0	22.5	23.5	20.5	17.5	19.5
18	---	---	---	28.5	23.5	26.0	24.0	22.0	23.0	20.0	18.0	19.0
19	---	---	---	29.0	25.0	27.0	23.5	21.0	22.5	18.5	16.5	17.5
20	---	---	---	29.0	26.5	27.5	---	---	---	17.0	16.0	16.5
21	---	---	---	28.0	26.0	27.0	---	---	---	20.0	16.0	17.5
22	---	---	---	28.0	25.5	26.5	25.0	21.0	23.0	21.0	18.0	19.0
23	22.5	20.0	21.0	27.5	23.5	25.5	25.0	23.0	24.0	19.0	16.5	18.0
24	23.0	20.5	21.5	25.0	22.5	23.5	24.5	21.0	23.0	18.0	15.0	16.5
25	23.5	22.5	23.0	23.5	21.5	22.5	25.5	21.0	23.0	19.5	15.0	16.5
26	23.0	21.0	21.5	26.0	23.0	24.5	25.5	21.5	23.5	20.0	17.0	18.0
27	21.0	19.0	20.0	---	---	---	25.5	21.5	23.5	21.0	18.5	19.5
28	22.0	19.0	21.0	---	---	---	27.0	22.5	24.5	19.5	17.5	18.5
29	23.0	20.5	22.0	---	---	---	27.0	23.5	26.0	17.5	16.0	17.0
30	24.0	22.0	23.0	---	---	---	26.0	23.5	25.0	17.5	16.5	17.0
31	---	---	---	---	---	---	24.0	23.0	23.5	---	---	---
MONTH	24.0	19.0	21.5	29.5	21.0	25.0	28.5	21.0	24.5	25.5	15.0	20.0

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.0	8.1	8.5	12.4	10.0	11.2	---	---	---			
2	8.3	7.9	8.1	13.3	12.6	12.9	---	---	---			
3	9.1	8.0	8.5	13.4	13.0	13.2	12.3	11.4	11.9			
4	9.0	8.2	8.6	13.2	12.3	12.8	12.1	5.2	9.1			
5	9.6	8.4	9.0	12.9	11.7	12.2	13.0	5.3	9.6			
6	9.7	8.9	9.2	13.4	12.2	12.8	13.0	12.3	12.6			
7	9.4	8.5	9.0	12.7	11.3	12.1	12.1	10.7	11.2			
8	9.8	8.3	8.8	11.7	11.2	11.4	10.8	9.5	10.2			
9	8.3	7.8	8.1	12.1	10.2	11.1	9.9	8.9	9.5			
10	8.0	7.8	7.9	11.0	10.5	10.8	11.7	8.7	10.1			
11	9.1	7.9	8.3	12.0	11.1	11.5	---	---	---			
12	8.6	7.7	8.1	12.5	12.0	12.2	---	---	---			
13	9.3	8.4	8.9	12.1	11.5	11.8	---	---	---			
14	10.0	9.1	9.5	11.5	10.8	11.1	---	---	---			
15	11.1	8.9	9.3	10.8	10.6	10.7	---	---	---			
16	9.1	8.5	8.8	11.0	10.6	10.7	---	---	---			
17	8.8	7.8	8.4	12.1	11.0	11.5	---	---	---			
18	7.8	7.3	7.6	12.5	12.0	12.3	---	---	---			
19	7.7	7.3	7.5	---	---	---	12.5	11.9	12.1			
20	8.3	7.5	8.0	12.0	11.6	11.8	13.1	12.3	12.7			
21	8.9	8.3	8.6	11.9	11.2	11.5	15.3	13.1	14.0			
22	9.0	8.3	8.6	11.5	11.1	11.3	14.9	10.0	14.1			
23	11.5	8.6	9.9	11.4	10.9	11.2	14.3	12.0	12.6			
24	11.7	10.6	11.2	10.9	8.4	10.4	12.2	11.3	11.6			
25	10.8	8.7	10.2	11.5	10.2	10.8	15.1	11.5	12.7			
26	11.6	9.1	9.8	---	---	---	15.7	13.0	14.2			
27	11.0	8.7	9.9	---	---	---	15.8	12.6	14.1			
28	9.1	8.4	8.8	---	---	---	15.7	12.7	14.0			
29	8.8	8.4	8.6	---	---	---	13.5	12.9	13.3			
30	9.1	8.5	8.9	---	---	---	---	---	---			
31	10.4	8.8	9.6	---	---	---	---	---	---			
MONTH	11.7	7.3	8.9	13.4	8.4	11.6	15.8	5.2	12.1			

POTOMAC RIVER BASIN

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										---	---	---
8										---	---	---
9										10.7	9.6	10.1
10										9.8	9.2	9.5
11										9.4	8.8	9.1
12										10.1	8.6	9.6
13										10.9	10.0	10.5
14										10.3	9.3	9.8
15										9.3	8.7	9.1
16										10.3	9.2	9.8
17										10.7	10.1	10.4
18										10.2	4.8	9.5
19										10.7	10.0	10.3
20										11.2	10.3	10.9
21										10.9	10.0	10.6
22										10.5	9.6	10.1
23										---	---	---
24										---	---	---
25										---	---	---
26										---	---	---
27										---	---	---
28										---	---	---
29										---	---	---
30										---	---	---
31										---	---	---
MONTH										11.2	4.8	10.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	8.4	7.9	8.1						
2	---	---	---	8.5	8.1	8.3						
3	---	---	---	8.4	8.0	8.3						
4	---	---	---	8.4	7.9	8.2						
5	---	---	---	8.0	7.6	7.8						
6	---	---	---	8.0	7.4	7.8						
7	---	---	---	7.8	7.2	7.4						
8	---	---	---	7.7	7.0	7.3						
9	---	---	---	7.5	6.6	6.9						
10	---	---	---	7.6	6.5	7.0						
11	---	---	---	8.1	6.6	7.2						
12	---	---	---	8.3	6.9	7.4						
13	---	---	---	7.7	6.8	7.2						
14	---	---	---	8.2	6.8	7.3						
15	---	---	---	8.7	6.8	7.5						
16	---	---	---	8.9	6.7	7.5						
17	---	---	---	9.9	7.1	8.2						
18	---	---	---	10.8	6.7	8.3						
19	---	---	---	10.1	6.3	7.9						
20	---	---	---	8.9	5.9	7.1						
21	---	---	---	8.0	5.9	6.7						
22	---	---	---	9.1	6.1	7.3						
23	8.8	6.9	8.6	10.3	6.5	8.1						
24	8.7	8.2	8.5	7.7	6.5	7.0						
25	8.2	7.9	8.1	7.7	6.8	7.2						
26	8.7	7.9	8.3	---	---	---						
27	9.1	8.6	8.9	---	---	---						
28	9.1	8.6	8.8	---	---	---						
29	8.9	8.4	8.6	---	---	---						
30	8.5	8.0	8.2	---	---	---						
31	---	---	---	---	---	---						
MONTH	9.1	6.9	8.5	10.8	5.9	7.6						

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'16", long 78°46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi (3.2 km) south of Cumberland, 2.1 mi (3.4 km) downstream from Wills Creek, and at mile 19.6 (31.5 km).

DRAINAGE AREA.--875 mi² (2,266 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi (3.2 km) upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft (178.375 m) National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Prior to July 1981 some regulation at low flow by Stony River Reservoir, 79 mi (127 km) above station (see station 01595200). Low-flow regulation since December 1950 by Savage River Reservoir, 39 mi (63 km) above station (see station 01597500). Flow regulated by Bloomington Reservoir, 43 mi (69 km) above station (see station 01595800) since July 1981. Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is below station. Diversion to Chesapeake and Ohio Canal prior to 1935. Gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 1,261 ft³/s (35.71 m³/s), 19.57 in/yr (497 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft³/s (2,500 m³/s) Mar. 17, 1936, gage height, 29.1 ft (8.87 m), from rating curve extended above 33,000 ft³/s (935 m³/s) on basis of slope-area measurement of peak flow; minimum discharge (river only), 12 ft³/s (0.34 m³/s) Sept. 22, 1932, gage height, 2.38 ft (0.725 m); minimum daily discharge (including flow in canal), 38 ft³/s (1.08 m³/s) Sept. 24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft (8.90 m) June 1, 1889, discharge, about 89,000 ft³/s (2,520 m³/s). Flood of Mar. 29, 1924, reached a stage of 28.4 ft (8.66 m), discharge, about 82,000 ft³/s (2,320 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,900 ft³/s (394 m³/s) Apr. 13, gage height, 12.35 ft (3.764 m), no other peak above base of 10,000 ft³/s (280 m³/s); minimum discharge, 32 ft³/s (3.74 m³/s) Oct. 10, gage height, 2.14 ft (0.652 m); minimum daily discharge, 141 ft³/s (3.99 m³/s) Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	268	1280	395	420	2510	1320	1470	2960	593	294	539
2	206	245	1140	361	1000	2390	1340	2720	2710	673	251	595
3	206	235	1910	342	1400	1910	1200	2580	2400	1080	293	784
4	201	218	1840	320	1050	1830	1090	2010	2890	876	285	1460
5	196	219	1450	280	950	1380	1050	1720	4200	786	266	2990
6	191	218	1290	220	766	1330	1050	1810	3820	712	265	2270
7	187	240	1250	240	746	1420	977	1580	5000	669	327	1030
8	182	232	1100	280	683	1280	868	1170	3630	603	300	726
9	159	232	1120	260	581	1170	737	930	2640	567	246	677
10	144	233	1500	230	655	1030	674	818	2540	513	214	552
11	187	261	1460	230	1090	1010	690	885	3160	524	280	375
12	191	283	1180	230	1880	1020	2250	1840	2580	464	194	281
13	196	248	1150	230	1440	1030	11600	1890	2030	410	197	221
14	187	231	1260	225	1300	1280	10100	1790	1980	367	217	220
15	173	222	1120	225	1200	1370	8310	1530	4680	313	196	269
16	173	237	1010	220	1030	1270	5720	1620	2510	287	206	603
17	173	247	719	210	1090	1280	3670	1600	1730	253	207	1040
18	168	319	603	200	1650	1160	3040	1360	1340	217	181	525
19	168	552	728	187	2500	1120	2620	1320	1090	214	152	399
20	164	445	656	191	4170	1030	2220	2750	2350	219	150	367
21	168	322	496	215	5430	940	2080	2940	2740	227	147	347
22	168	292	400	230	5000	871	1750	2310	2190	244	144	333
23	164	288	355	235	4660	832	1510	1900	2120	234	150	313
24	173	841	350	230	6020	822	1600	1730	1370	223	150	291
25	480	4020	380	210	4550	871	1830	1440	1020	330	150	275
26	871	2140	340	220	3430	851	1770	953	1560	320	147	273
27	620	1380	320	268	2840	1060	1610	1000	1620	364	141	269
28	375	1220	300	586	1890	3410	2060	1050	954	485	150	263
29	297	1220	342	728	---	2090	1690	3650	766	582	150	258
30	368	1060	355	765	---	1510	1520	3400	656	513	159	403
31	316	---	416	458	---	1480	---	3040	---	347	311	---
TOTAL	7648	18168	27820	9221	59421	42557	77946	56806	71236	14209	6520	18948
MEAN	247	606	897	297	2122	1373	2598	1832	2375	458	210	632
MAX	871	4020	1910	765	6020	3410	11600	3650	5000	1080	327	2990
MIN	144	218	300	187	420	822	674	818	656	214	141	220
CAL YR 1980	TOTAL	500192	MEAN	1367	MAX	10400	MIN	144	CFSM	1.56	IN	21.27
WTR YR 1981	TOTAL	410500	MEAN	1125	MAX	11600	MIN	141	CFSM	1.29	IN	17.45

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1981 (discontinued).

WATER TEMPERATURES: October 1964 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1964 to current year.

INSTRUMENTATION.--Water-quality monitor October 1979 to September 1981.

REMARKS.--Prior to October 1979 water temperatures were measured in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water Year 1980): Maximum, 954 micromhos Sept. 25, 1980; minimum, 152 micromhos May 23, 1980.

WATER TEMPERATURES (water Years 1965-80): Maximum daily, 33.0°C July 13, 14, 1966, July 16, 18, Aug. 19, 23, 1968, July 17, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,600 mg/L Feb. 13, 1966, July 4, 1978; minimum daily mean, 1 mg/L Jan. 17, 1975.

SEDIMENT LOADS: Maximum daily, 66,300 tons (59,800 tonnes) July 4, 1978; minimum daily, 2.1 tons (1.9 tonnes) Aug. 27, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 954 micromhos Sept. 25; minimum, 152 micromhos May 23.

WATER TEMPERATURES: Maximum daily, 30.5°C Aug. 7, 8, 10; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 347 mg/L Apr. 13; minimum daily mean, 3 mg/L Dec. 28.

SEDIMENT LOADS: Maximum daily, 11,400 tons (10,300 tonnes) Apr. 13; minimum daily, 2.4 tons (2.2 tonnes).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLOR (PLAT- INUM- COBALT UNITS)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	ACIDITY (MG/L AS H)
OCT 23...	1215	170	1050	6.9	15.0	11.6	9.0	120	300	250	.0
NOV 18...	1130	316	819	7.0	3.5	4.1	12.0	--	230	190	--
DEC 16...	1400	988	361	6.7	3.0	2.3	14.8	--	93	72	--
MAR 04...	1115	1880	233	6.6	1.0	3.0	13.0	5	70	--	.0
APR 06...	1515	1050	366	6.7	4.0	13.1	--	--	140	120	.0
JUN 19...	1030	1060	298	6.2	28.0	21.1	8.9	4	--	--	.0
JUL 23...	1000	235	1080	7.1	20.0	22.0	7.4	--	--	--	.0
AUG 25...	1030	129	1175	7.1	20.0	20.3	6.8	--	430	370	.0

DATE	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM 40 DIS- SOLVED (PCI/L AS K40)	ALKA- LINEITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 23...	.0	98	14	85	37	2.1	5.6	--	66	230	140
NOV 18...	--	74	11	71	40	2.0	4.0	--	--	180	110
DEC 16...	--	29	5.1	22	33	1.0	1.8	--	23	71	31
MAR 04...	.0	20	4.8	10	23	.5	1.2	.90	--	55	16
APR 06...	.0	46	6.9	15	18	.5	1.7	1.3	18	97	30
JUN 19...	.0	--	--	--	--	--	--	--	18	100	--
JUL 23...	.0	--	--	--	--	--	--	--	59	260	--
AUG 25...	.0	140	20	91	31	1.9	4.8	--	64	330	160

POTOMAC RIVER BASIN

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01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS P04)
OCT 23...	.1	6.7	713	616	.97	327	.35	.34	.150	.46
NOV 18...	.1	5.3	536	480	.73	457	.40	--	.100	.31
DEC 16...	.1	5.3	205	178	.28	547	--	--	--	--
MAR 04...	<.1	5.5	135	130	.18	685	.99	.97	.040	.12
APR 06...	.1	5.2	226	214	.31	641	--	--	--	--
JUN 19...	--	--	250	--	.34	715	.53	--	--	--
JUL 23...	--	--	771	--	1.1	489	--	--	--	--
AUG 25...	.2	5.0	933	791	1.3	325	--	--	--	--
			IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOVERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)		
OCT 23...			570	360	210	680	90	590		
NOV 18...			500	320	180	540	10	530		
DEC 16...			520	440	80	400	20	380		
MAR 04...			530	460	70	260	20	240		
APR 06...			480	380	100	410	0	450		
JUN 19...			580	520	60	440	40	400		
JUL 23...			430	320	110	590	120	470		
AUG 25...			790	560	230	840	60	780		

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	DATE	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 23...	9	4.1	--	APR 13...	378	11800	81
NOV 18...	42	36	--				

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
APR 13...	1600	11600	378	11800	36	46	61

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
APR 13...	71	81	91	96	99	100

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	909	828	881	698	593	622	390	261	308			
2	887	853	870	620	608	614	266	222	239			
3	865	856	876	656	624	637	265	226	243			
4	878	825	853	696	662	678	243	201	218			
5	885	842	864	736	706	720	221	198	209			
6	893	835	855	758	734	745	240	229	235			
7	906	866	884	789	761	770	261	247	254			
8	977	864	895	868	799	837	314	271	284			
9	999	761	893	875	711	769	322	285	308			
10	974	909	932	728	707	716	345	278	312			
11	979	902	940	807	738	759	343	280	307			
12	978	942	955	908	801	861	300	297	298			
13	1050	965	1010	929	905	921	326	308	316			
14	1000	892	923	902	789	822	353	331	347			
15	897	873	881	853	816	843	354	328	341			
16	914	866	884	855	831	846	377	357	363			
17	883	859	870	833	805	822	428	403	418			
18	918	888	903	856	807	822	496	425	453			
19	916	881	897	842	794	812	535	517	525			
20	915	897	910	792	626	717	582	563	573			
21	983	902	941	612	577	595	609	375	470			
22	989	926	985	566	254	304	407	400	403			
23	---	947	---	260	246	253	431	425	428			
24	1010	953	986	265	248	256	458	450	454			
25	981	302	620	262	246	251	475	473	474			
26	604	302	442	239	227	233	513	498	500			
27	570	460	490	259	214	217	834	522	551			
28	472	455	463	273	249	261	551	547	548			
29	514	466	486	284	241	265	579	572	575			
30	607	507	556	278	265	272	---	---	---			
31	708	616	664	---	---	---	---	---	---			
MONTH	1050	302	820	929	214	608	834	198	378			
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	259	220	237	331	258	269			
2	---	---	---	252	219	231	288	260	274			
3	367	250	299	239	223	231	347	278	291			
4	269	206	241	239	230	234	368	301	313			
5	246	222	235	292	231	249	353	335	340			
6	251	217	237	269	245	256	389	365	373			
7	286	227	260	280	260	270	378	352	363			
8	342	257	296	275	253	265	368	352	358			
9	398	323	359	282	258	273	383	356	362			
10	418	365	401	284	271	277	400	369	378			
11	477	175	322	293	278	288	429	399	413			
12	305	178	236	299	273	288	424	271	375			
13	229	203	209	299	281	292	306	238	251			
14	211	197	204	294	263	279	---	---	---			
15	222	204	215	284	256	270	---	---	---			
16	227	216	223	275	253	260	---	---	---			
17	250	225	239	263	244	253	---	---	---			
18	241	220	230	263	237	248	---	---	---			
19	219	199	205	270	240	252	---	---	---			
20	212	173	190	285	250	263	---	---	---			
21	196	169	183	296	254	282	---	---	---			
22	209	179	193	311	287	297	---	---	---			
23	223	171	200	308	279	297	---	---	---			
24	187	156	174	319	297	309	---	---	---			
25	189	153	179	334	308	320	---	---	---			
26	218	154	195	315	293	309	---	---	---			
27	214	182	197	398	312	330	---	---	---			
28	256	196	222	413	229	277	---	---	---			
29	---	---	---	294	206	230	---	---	---			
30	---	---	---	265	245	254	---	---	---			
31	---	---	---	343	258	271	---	---	---			
MONTH	477	153	236	413	206	271	429	238	335			

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNF			JULY			AUGUST			SEPTEMBER		
1				---	---	---	819	746	800	819	568	631
2				---	---	---	874	819	859	713	283	566
3				---	---	---	877	758	823	517	407	464
4				---	---	---	880	796	848	593	441	503
5				---	---	---	933	865	904	442	394	417
6				---	---	---	993	916	965	426	374	413
7				501	389	473	959	884	932	419	387	412
8				531	488	511	974	897	940	457	395	433
9				571	502	548	993	907	962	419	358	374
10				612	542	582	967	923	951	413	385	404
11				635	558	608	970	758	896	442	414	433
12				629	566	610	898	855	879	481	444	463
13				621	600	612	975	877	934	541	484	522
14				638	599	622	990	920	967	619	545	593
15				675	639	660	1000	926	983	652	618	637
16				732	684	720	987	854	932	648	515	567
17				816	739	784	871	837	850	680	482	568
18				833	731	811	948	874	922	522	421	440
19				908	815	869	987	917	958	457	435	444
20				1030	861	967	1020	962	985	541	442	499
21				1050	899	982	1020	858	1000	634	537	565
22				1000	909	955	1040	861	1010	658	561	599
23				1090	959	1060	1120	1050	1090	646	596	623
24				1100	1030	1060	1130	1100	1120	689	623	655
25				1090	956	1020	---	1130	---	653	592	628
26				1090	959	1020	---	1310	---	663	565	599
27				970	909	945	---	1210	---	738	654	688
28				992	793	920	---	1210	---	723	686	697
29				891	761	831	---	1210	---	813	691	757
30				842	753	807	---	934	---	792	739	771
31				758	737	749	1030	878	960	---	---	---
MONTH				1100	389	789	1130	746	939	819	283	546

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	22.0	16.5	18.5	10.5	7.5	8.5	7.5	3.5	5.0			
2	16.5	15.0	16.0	9.5	7.0	8.0	7.0	5.5	6.0			
3	16.5	14.5	15.5	10.0	6.0	8.0	6.0	4.0	5.0			
4	15.0	13.5	14.5	9.5	7.5	8.5	4.5	3.5	4.0			
5	14.5	12.5	13.5	9.0	8.0	8.5	5.0	4.0	4.5			
6	14.5	10.5	13.0	9.0	6.0	7.5	7.0	5.5	6.0			
7	14.5	11.5	13.0	9.0	6.5	7.5	10.0	7.5	8.5			
8	15.5	11.0	13.5	10.5	8.0	9.0	13.0	10.5	12.0			
9	15.0	12.5	14.0	10.5	8.5	9.5	13.5	13.0	13.5			
10	15.0	13.0	13.5	9.5	7.0	8.5	13.0	11.5	12.0			
11	16.0	12.5	14.0	7.0	5.0	6.0	13.5	9.5	10.5			
12	14.0	12.0	12.5	7.0	4.0	5.5	8.5	8.0	8.0			
13	12.0	10.5	11.5	7.0	4.5	5.5	8.0	7.0	7.5			
14	12.0	9.5	11.0	6.5	4.5	5.5	6.0	4.5	5.5			
15	13.5	10.0	11.5	7.0	6.0	6.5	3.5	3.0	3.0			
16	14.5	10.5	12.5	7.5	6.0	7.0	2.5	1.5	2.0			
17	15.5	14.0	13.5	6.5	2.5	4.5	2.5	1.0	2.0			
18	15.0	14.0	14.5	4.0	2.5	3.0	3.0	1.5	2.5			
19	16.0	14.0	15.0	4.5	3.0	3.5	3.5	2.5	3.5			
20	15.0	12.5	13.0	5.0	3.0	3.5	2.5	.5	2.0			
21	15.0	12.5	13.5	4.0	2.0	3.0	2.0	1.0	1.5			
22	15.0	12.0	13.5	---	---	---	2.5	.0	1.5			
23	13.0	10.5	12.0	---	---	---	2.0	1.5	2.0			
24	12.0	9.5	11.0	---	---	---	2.0	1.5	1.5			
25	11.5	9.0	10.5	---	---	---	2.0	1.0	1.5			
26	8.5	7.0	8.0	---	---	---	3.0	1.5	2.5			
27	8.5	7.0	7.5	---	---	---	3.0	2.5	1.5			
28	8.5	7.5	8.0	3.5	3.0	3.5	2.5	2.0	2.5			
29	9.5	7.0	8.0	4.0	3.0	3.5	1.5	1.0	1.5			
30	10.0	7.0	8.0	5.0	3.5	4.0	---	---	---			
31	10.0	7.0	8.0	---	---	---	---	---	---			
MONTH	22.0	7.0	12.5	10.5	2.0	6.2	13.5	.0	5.0			

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	6.5	5.5	6.0	12.0	9.5	11.0			
2	---	---	---	5.5	4.0	5.0	13.0	8.5	10.5			
3	4.0	1.0	3.0	5.0	3.5	4.0	13.5	9.5	11.5			
4	5.5	2.0	3.0	3.5	3.0	3.5	15.0	11.5	13.5			
5	4.0	2.0	3.0	4.0	2.5	3.0	15.0	13.0	14.0			
6	4.5	2.5	3.0	5.0	3.0	4.0	13.0	9.5	11.0			
7	4.0	2.5	3.0	4.5	3.5	4.0	12.0	8.0	10.0			
8	4.0	2.5	3.0	4.5	3.5	4.0	14.5	9.0	11.5			
9	7.5	2.5	3.5	5.5	4.0	4.5	14.0	11.5	13.0			
10	7.5	2.5	3.5	6.0	4.5	5.0	15.0	10.0	12.5			
11	4.5	.0	3.0	6.5	5.0	5.5	17.0	12.5	14.5			
12	4.5	.0	2.0	7.5	4.5	6.0	15.0	11.0	14.5			
13	3.0	1.5	2.0	8.0	4.0	6.5	11.5	8.0	10.5			
14	2.5	1.5	2.0	7.0	5.0	5.5	---	---	---			
15	3.5	2.0	2.5	6.0	3.5	5.0	---	---	---			
16	4.0	2.0	3.5	5.5	4.0	5.0	---	---	---			
17	4.5	3.0	4.0	4.0	2.5	3.5	---	---	---			
18	5.0	3.0	4.0	4.0	.0	2.5	---	---	---			
19	3.5	2.0	3.0	3.5	2.0	3.0	---	---	---			
20	5.5	4.0	5.0	4.5	2.0	3.0	---	---	---			
21	6.0	5.0	5.5	5.0	3.5	4.0	---	---	---			
22	6.5	5.0	6.0	5.5	3.5	4.5	---	---	---			
23	8.0	4.5	6.5	7.5	4.5	6.5	---	---	---			
24	6.0	5.0	5.5	8.0	5.5	7.0	---	---	---			
25	6.0	4.5	5.0	8.0	6.0	7.5	---	---	---			
26	6.0	4.0	5.0	8.0	5.5	7.0	---	---	---			
27	6.0	4.0	5.0	10.5	7.5	9.0	---	---	---			
28	6.0	4.5	5.0	10.5	6.0	7.5	---	---	---			
29	---	---	---	9.5	5.5	7.5	---	---	---			
30	---	---	---	11.0	7.0	9.5	---	---	---			
31	---	---	---	13.5	8.5	11.5	---	---	---			
MONTH	8.0	.0	4.0	13.5	.0	5.5	17.0	8.0	12.0			
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1				---	---	---	25.0	20.5	22.5	22.5	20.5	21.0
2				---	---	---	25.0	20.5	22.5	22.0	20.5	21.5
3				---	---	---	24.0	21.5	22.5	20.0	19.5	19.5
4				---	---	---	25.5	22.0	23.5	19.5	18.0	19.0
5				---	---	---	26.5	22.5	24.5	19.0	17.5	18.0
6				---	---	---	24.5	22.0	23.0	19.0	18.0	18.5
7				27.0	22.5	23.5	24.0	20.0	22.5	20.5	18.0	19.0
8				25.5	22.0	23.5	25.5	21.5	23.5	20.5	19.0	19.5
9				27.5	23.5	25.0	25.5	22.0	23.5	20.5	17.5	18.5
10				27.5	25.0	26.0	26.5	21.5	24.0	20.5	16.5	18.5
11				27.0	24.0	25.0	26.5	20.5	23.5	21.5	17.5	19.0
12				26.5	23.0	24.5	25.5	22.5	24.0	23.5	18.5	20.5
13				25.5	23.0	24.0	25.0	22.0	23.5	24.0	20.0	21.5
14				25.0	23.0	24.0	25.5	21.5	23.5	24.0	20.0	22.0
15				26.0	21.5	23.5	30.5	22.5	23.5	23.0	20.5	21.5
16				23.5	21.5	22.5	24.5	22.0	23.0	20.5	18.0	19.0
17				25.0	20.5	22.5	24.0	19.5	22.0	20.0	17.5	18.5
18				27.0	21.0	23.5	23.5	20.0	21.5	19.5	16.5	17.5
19				30.0	21.5	24.5	22.5	20.0	21.5	16.5	15.0	16.0
20				32.0	23.0	28.5	23.0	21.0	21.5	17.0	14.5	15.5
21				32.5	31.0	32.0	22.5	21.0	21.5	19.0	14.5	16.5
22				31.0	29.5	30.5	23.0	21.0	21.5	19.5	16.5	17.5
23				31.5	29.5	31.0	23.0	20.0	22.5	17.5	15.5	16.5
24				31.5	30.5	31.5	---	---	---	18.5	15.0	16.5
25				32.0	31.5	31.5	---	---	---	19.0	14.0	16.5
26				31.5	31.5	31.5	---	---	---	20.0	15.5	17.5
27				31.5	23.0	29.0	---	---	---	20.0	16.5	18.0
28				30.5	22.5	27.5	---	---	---	19.0	16.0	17.5
29				22.5	21.0	22.0	---	---	---	18.0	14.5	16.5
30				23.5	20.5	21.5	---	---	---	17.5	15.5	16.5
31				24.0	20.5	22.0	---	---	---	---	---	---
MONTH				32.5	20.5	26.0	30.5	19.5	23.0	24.0	14.0	18.5

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)											
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)											
OCTOBER													NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18	9.5	9	6.5	14	48	11	12	12	14	18	122										
2	14	7.8	7	4.6	10	31	9	8.8	50	135	16	103										
3	15	8.3	7	4.4	31	160	9	8.3	45	170	9	46										
4	14	7.6	8	4.7	25	124	9	7.8	26	74	9	44										
5	12	6.4	9	5.3	5	20	9	6.8	15	38	8	30										
6	12	6.2	9	5.3	4	14	9	5.3	13	27	6	22										
7	12	6.1	8	5.2	5	17	6	3.9	15	30	7	27										
8	12	5.9	9	5.6	6	18	6	4.5	13	24	10	35										
9	14	6.0	9	5.6	11	33	10	7.0	14	22	9	28										
10	12	4.7	10	6.3	16	65	9	5.6	14	25	9	25										
11	12	6.1	7	4.9	11	43	9	5.6	33	97	11	30										
12	15	7.7	8	6.1	4	13	11	6.8	34	173	11	30										
13	14	7.4	8	5.4	4	12	11	6.8	15	58	11	31										
14	12	6.1	6	3.7	10	34	12	7.3	25	88	9	31										
15	12	5.6	7	4.2	10	30	9	5.5	22	71	8	30										
16	12	5.6	8	5.1	6	16	9	5.3	16	44	8	27										
17	12	5.6	7	4.7	5	9.7	12	6.8	12	35	11	38										
18	11	5.0	9	7.8	7	11	15	8.1	33	147	8	25										
19	12	5.4	11	16	8	16	12	6.1	100	675	5	15										
20	12	5.3	14	17	8	14	12	6.2	163	1840	6	17										
21	12	5.4	11	9.6	7	9.4	10	5.8	160	2350	9	23										
22	12	5.4	10	7.9	9	9.7	8	5.0	77	1040	9	21										
23	10	4.4	10	7.8	7	6.7	5	3.2	40	503	9	20										
24	10	4.7	36	111	12	11	5	3.1	53	861	8	18										
25	21	27	142	1580	12	12	6	3.4	33	405	5	12										
26	29	68	38	220	5	4.6	8	4.8	28	259	9	21										
27	22	37	12	45	4	3.5	10	7.2	23	176	22	90										
28	15	15	7	23	3	2.4	20	32	12	61	126	1150										
29	9	7.2	7	23	6	5.5	19	37	---	---	41	231										
30	10	9.9	6	17	10	9.6	16	33	---	---	12	49										
31	10	8.5	---	---	10	11	10	12	---	---	10	40										
TOTAL	---	320.8	---	2172.7	---	814.1	---	281.0	---	9442	---	2431										
APRIL													MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10	36	13	52	32	256	21	34	25	20	72	105										
2	12	43	90	661	32	234	19	35	24	16	62	100										
3	13	42	27	188	24	156	55	160	27	21	59	125										
4	12	35	12	65	72	562	36	85	25	19	75	296										
5	11	31	10	46	142	1610	33	70	21	15	132	1070										
6	12	34	12	59	65	670	19	37	22	16	57	349										
7	11	29	16	68	50	675	17	31	22	19	22	61										
8	7	16	16	51	42	412	16	26	21	17	16	31										
9	5	9.9	16	40	27	142	15	23	19	13	16	29										
10	5	9.1	17	38	40	274	15	21	19	11	21	31										
11	15	28	12	29	48	410	16	23	19	14	17	17										
12	107	800	65	323	26	181	15	19	23	12	14	11										
13	347	11400	22	112	18	99	13	14	21	11	13	7.8										
14	262	7140	14	62	19	102	14	14	22	13	14	8.3										
15	225	5050	15	62	151	1910	12	10	21	11	17	12										
16	82	1270	15	66	33	224	9	7.0	22	12	23	37										
17	56	555	8	35	15	70	8	5.5	23	13	31	87										
18	40	328	8	29	16	58	6	3.5	21	10	15	21										
19	21	149	17	61	16	47	4	2.3	20	8.2	14	15										
20	17	102	101	750	115	730	6	3.5	23	9.3	11	11										
21	15	84	33	262	76	562	10	6.1	21	8.3	10	9.4										
22	11	52	15	94	34	201	18	12	20	7.8	10	9.0										
23	6	24	9	46	27	155	13	8.2	24	9.7	11	9.3										
24	7	30	10	47	16	59	15	9.0	23	9.3	11	8.6										
25	11	54	8	31	16	44	13	12	24	9.7	9	6.7										
26	10	48	6	15	50	211	16	14	24	9.5	7	5.2										
27	8	35	8	22	88	385	15	15	21	8.0	7	5.1										
28	15	83	40	113	20	52	21	27	22	8.9	7	5.0										
29	10	46	572	5800	16	33	23	36	24	9.7	10	7.0										
30	7	29	65	597	17	30	22	30	25	11	10	11										
31	---	---	38	312	---	---	25	23	38	32	---	---										
TOTAL	---	27592.0	---	10142	---	10604	---	816.1	---	404.4	---	2500.4										
TOTAL LOAD FOR YEAR:													67520.5		TONS.							

POTOMAC RIVER BASIN

65

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

LOCATION.--Lat 39°26'35", long 78°49'20", Mineral County, Hydrologic Unit 02070002, on right bank 100 ft (30 m) downstream from Hazel Run, 1.0 mi (1.6 km) downstream from Cabin Run, 4.0 mi (6.4 km) northeast of Headsville, 8.0 mi (12.9 km) east of Keyser, and at mile 12.5 (20.1 km).

DRAINAGE AREA.--219 mi² (567 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WSP 951: 1939-40.

GAGE.--Water-stage recorder. Datum of gage is 624.90 ft (190.470 m) Corps of Engineers datum. Prior to Oct 11, 1946, nonrecording gage on bridge 1.0 mi (1.6 km) upstream at datum 6.14 ft (1.871 m) higher. Oct. 11-23, 1946, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records good except those for December and February, which are fair, and those for January, which are poor. The flow from 111 mi² (287 km²) upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,080 acre-ft (23.5 hm³).

AVERAGE DISCHARGE.--43 years, 166 ft³/s (4.701 m³/s), 10.29 in/yr (261 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s (453 m³/s) Aug. 18, 1955, gage height, 12.20 ft (3.719 m), from rating curve extended above 4,900 ft³/s (140 m³/s) on basis of contracted-opening measurement at gage height 11.53 ft (3.514 m); minimum, 1.2 ft³/s (0.034 m³/s) Sept. 10-12, 1965; minimum gage height, 2.02 ft (0.616 m) Oct. 2, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 800 ft³/s (22.7 m³/s) Apr. 13, maximum gage height, 5.69 ft (1.734 m) Nov. 24; minimum discharge, 48 ft³/s (0.14 m³/s) Aug. 30, gage height 2.40 ft (0.732 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	17	74	28	29	189	87	148	225	32	17	12
2	13	17	66	26	82	159	88	319	214	36	14	15
3	14	17	64	24	58	132	84	268	247	43	13	40
4	15	16	59	21	49	114	77	222	334	41	15	50
5	14	15	55	20	44	112	74	186	277	41	14	66
6	13	16	54	19	40	112	70	165	283	41	16	56
7	13	15	52	21	38	118	67	150	289	38	25	42
8	13	15	49	19	35	120	58	128	236	32	30	41
9	13	16	49	17	33	124	53	110	212	27	23	42
10	13	16	56	16	32	130	53	97	230	24	18	32
11	14	16	59	15	63	132	54	101	219	21	15	26
12	13	15	58	13	90	126	74	141	174	18	14	21
13	13	16	55	13	71	118	685	132	170	17	12	18
14	12	16	53	14	68	108	590	118	247	17	10	15
15	12	16	48	16	59	99	496	118	277	15	9.4	17
16	12	17	49	14	55	94	387	122	206	14	8.8	141
17	13	19	44	13	54	77	331	110	165	14	8.5	169
18	12	54	42	13	56	82	283	101	141	13	7.6	112
19	14	77	40	12	66	77	228	182	120	11	7.3	80
20	12	63	32	20	283	74	225	440	112	11	6.8	61
21	12	52	24	23	636	70	194	355	99	14	6.4	49
22	12	44	26	26	506	67	168	295	87	12	6.2	40
23	12	38	29	27	478	64	152	244	73	10	5.9	34
24	11	430	31	28	608	61	146	204	63	23	5.7	28
25	32	426	26	26	430	59	130	170	58	26	5.5	24
26	47	225	23	30	331	56	116	143	58	23	5.3	22
27	35	157	22	39	268	60	114	124	50	32	5.1	20
28	28	128	25	34	222	77	114	163	43	28	5.1	17
29	24	106	26	33	---	90	108	398	37	33	5.1	15
30	21	88	28	31	---	92	104	298	32	26	5.0	15
31	19	---	26	31	---	88	---	271	---	20	5.9	---
TOTAL	514	2163	1344	682	4784	3081	5410	6023	4978	753	345.6	1320
MEAN	16.6	72.1	43.4	22.0	171	99.4	180	194	166	24.3	11.1	44.0
MAX	47	430	74	39	636	189	685	440	334	43	30	169
MIN	11	15	22	12	29	56	53	97	32	10	5.0	12
CFSM	.08	.33	.20	.10	.78	.45	.82	.89	.76	.11	.05	.20
IN.	.09	.37	.23	.12	.81	.52	.92	1.02	.85	.13	.06	.22
CAL YR 1980	TOTAL	56303.0	MEAN	154	MAX	1580	MIN	11	CFSM	.70	IN	9.56
WTR YR 1981	TOTAL	31397.6	MEAN	86.0	MAX	685	MIN	5.0	CFSM	.39	IN	5.33

POTOMAC RIVER BASIN

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 22...	1315	11	340	7.5	13.0	9.3	140	59	.0	42	8.8	4.2
DEC 16...	1530	46	250	7.5	3.0	12.4	120	66	.0	34	7.3	5.4
JAN 27...	1315	42	300	7.3	1.0	11.8	130	58	.0	40	8.1	5.7
MAR 17...	1405	89	267	7.7	2.5	11.3	98	37	.0	29	6.3	4.5
MAY 12...	1610	143	220	7.9	15.0	9.5	86	15	.0	25	5.8	4.7
JUL 20...	1620	11	290	7.5	27.0	--	140	--	.0	41	8.2	5.2
AUG 27...	1105	5.5	317	7.6	20.0	8.0	130	--	.0	39	8.7	3.9

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 22...	6	.2	2.3	99	40	5.0	.0	4.6	184	156	.25	5.4
DEC 16...	--	.2	--	66	43	7.1	--	--	153	--	.21	19.0
JAN 27...	--	.2	--	88	40	8.0	--	3.9	162	151	.22	18.4
MAR 17...	--	.2	--	61	38	5.9	--	--	140	--	.19	33.6
MAY 12...	--	.2	--	86	32	4.5	--	5.9	125	122	.17	48.3
JUL 20...	--	.2	--	110	34	40	--	--	172	--	.23	5.1
AUG 27...	--	.2	--	110	37	5.7	--	7.5	204	--	.28	3.0

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 16...	--	--	--	--	--	--	--	--	--	--	--
JAN 27...	<.010	.03	.32	.040	.070	.21	60	<1	<1	<3	<10
MAR 17...	--	--	--	--	--	--	--	--	--	--	--
MAY 12...	<.010	--	.36	.040	<.010	--	50	<1	2	<3	<10
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
AUG 27...	<.010	--	.01	<.010	<.010	--	50	1	1	3	10

POTOMAC RIVER BASIN

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01604500 PATTERSON CREEK NEAR HEADSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDEO RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDEO RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	430	390	40	--	--	30	10	20	--	--	--	--
DEC 16...	390	350	50	--	--	20	10	10	--	--	--	--
JAN 27...	300	--	<10	<10	5	10	0	20	<10	360	<6.0	34
MAR 17...	300	--	<10	--	--	30	20	10	--	--	--	--
MAY 12...	600	570	30	12	<4	60	40	20	<10	210	<6.0	<4
JUL 20...	470	450	20	--	--	40	0	40	--	--	--	--
AUG 27...	930	920	14	11	4	130	60	66	10	440	6.0	12

POTOMAC RIVER BASIN

01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV

LOCATION.--Lat 38°38'14", long 79°20'14", Pendleton County, Hydrologic Unit 02070001, on left bank 0.5 mi (0.8 km) southwest of Franklin, 2 mi (3.2 km) upstream from Friends Run, 2.5 mi (4.0 km) downstream from Thorn Creek, and at mile 109.5 (176.2 km).

DRAINAGE AREA.--182 mi² (471 km²).

PERIOD OF RECORD.--April 1940 to September 1969, October 1976 to current year.

GAGE.--Water-stage recorder and improved natural control. Datum of gage is 1,692.5 ft (515.874 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records good except those for Dec. 20 to Feb. 21, which are poor.

AVERAGE DISCHARGE.--34 years, 165 ft³/s (4.673 m³/s), 12.31 in/yr (313 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s) June 17, 1949, gage height, 11.40 ft (3.475 m), from floodmarks, from rating curve extended above 6,400 ft³/s (180 m³/s) on basis of slope-area measurement of peak flow; minimum, 13 ft³/s (0.37) Jan. 17, 1966; minimum gage height, 1.31 ft (0.399 m) Sept. 25-29, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936, reached a stage of about 13 ft (4.0 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,450 ft³/s (97.7 m³/s) Feb. 11, gage height, 5.58 ft (1.701 m), no other peak above base of 1,700 ft³/s (48 m³/s); minimum, 20 ft³/s (0.57 m³/s) Dec. 20, Jan. 3, 31, but may have been less during period of ice effect Jan. 2-6, or during period of no gage-height record, Sept. 11-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	37	60	37	48	123	124	95	172	88	41	26
2	37	35	60	31	502	111	126	89	200	131	40	31
3	38	35	72	20	133	103	115	80	205	115	43	29
4	41	37	66	23	101	95	107	75	219	109	47	37
5	37	38	63	23	80	95	106	71	237	121	41	46
6	37	35	60	31	68	93	104	71	426	189	47	34
7	35	35	56	34	59	85	95	73	448	149	58	59
8	35	35	53	30	53	78	88	65	320	119	47	46
9	34	38	52	28	48	73	84	60	262	98	41	42
10	34	42	53	27	46	69	80	60	451	87	37	36
11	34	35	50	25	2260	68	74	76	457	77	36	45
12	33	34	48	25	2570	65	72	89	335	67	36	42
13	33	34	47	28	1000	63	82	73	269	62	35	39
14	33	34	45	33	400	60	76	66	237	59	34	37
15	34	37	42	34	210	57	85	84	179	54	32	34
16	33	42	43	34	144	59	77	89	152	51	33	101
17	33	49	42	31	128	55	80	84	130	51	31	82
18	33	131	40	28	118	59	91	87	114	47	30	62
19	34	85	41	31	116	56	85	265	118	45	29	50
20	33	60	28	34	123	55	136	632	199	50	30	45
21	33	51	27	38	137	54	157	454	139	48	29	39
22	33	48	30	38	152	54	149	315	124	45	29	35
23	32	44	38	40	218	55	144	236	106	42	27	32
24	32	146	42	37	319	61	141	188	90	56	27	30
25	80	181	31	35	218	68	131	160	81	61	27	28
26	73	97	32	40	172	72	116	139	82	55	25	26
27	48	79	35	44	144	96	109	125	68	49	24	25
28	42	80	36	45	128	138	101	211	60	54	25	24
29	41	73	39	41	---	126	95	257	55	64	25	23
30	38	64	40	31	---	127	95	211	53	50	29	22
31	37	---	38	32	---	131	---	202	---	45	30	---
TOTAL	1187	1771	1409	1008	9695	2504	3125	4782	5988	2338	1065	1207
MEAN	38.3	59.0	45.5	32.5	346	80.8	104	154	200	75.4	34.4	40.2
MAX	80	181	72	45	2570	138	157	632	457	189	58	101
MIN	32	34	27	20	46	54	72	60	53	42	24	22
CFSM	.21	.32	.25	.18	1.90	.44	.57	.85	1.10	.41	.19	.22
IN.	.24	.36	.29	.21	1.98	.51	.64	.98	1.22	.48	.22	.25
CAL YR 1980	TOTAL	67435	MEAN	184	MAX	2130	MIN	27	CFSM	1.01	IN	13.78
WTR YR 1981	TOTAL	36079	MEAN	98.8	MAX	2570	MIN	20	CFSM	.54	IN	7.37

POTOMAC RIVER BASIN

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01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

LOCATION.--Lat 38°59'34", long 79°10'26", Grant County, Hydrologic Unit 02070001, on right bank 1.2 mi (1.9 km) downstream from North Fork South Branch Potomac River, 2.5 mi (4.0 km) west of Petersburg, and at mile 72.6 (116.8 km).

DRAINAGE AREA.--642 mi² (1,663 km²).

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 951: 1939-41. WSP 1141: 1932, 1933(M), 1936-38.

GAGE.--Water-stage recorder. Datum of gage is 962.00 ft (293.218 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 4, 1928, nonrecording gage at same site and datum.

REMARKS.--Records good except those for Dec. 21 to Jan. 25, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years, 709 ft³/s (20.08 m³/s), 15.00 in/yr (381 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,000 ft³/s (1,760 m³/s) June 17, 1949, gage height, 22.83 ft (6.959 m), from rating curve extended above 17,000 ft³/s (480 m³/s) on basis of slope-area measurement of peak flow; minimum, 42 ft³/s (1.19 m³/s) Sept. 28, 29, 1959, Sept. 11, 12, 1966; minimum gage height, 0.94 ft (0.287 m) Sept. 28, 29, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1877 reached a stage of 21.2 ft (6.46 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,760 ft³/s (163 m³/s) June 10, gage height, 7.01 ft (2.137 m), no peak above base of 6,000 ft³/s (170 m³/s); minimum, 48 ft³/s (1.36 m³/s) Aug. 27-30, gage height, 1.11 ft (0.338 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	124	305	148	189	764	1060	590	1240	281	124	170
2	100	117	381	130	566	694	974	722	1160	494	113	197
3	102	115	715	100	687	620	827	644	1290	505	117	325
4	100	111	638	100	354	549	708	566	1370	472	119	427
5	102	113	527	105	305	533	644	505	1950	417	128	419
6	100	115	450	146	270	521	614	461	3480	572	131	276
7	98	111	406	164	250	466	543	439	3480	566	165	199
8	93	109	377	147	236	422	488	386	2040	461	180	247
9	91	111	354	142	220	390	450	341	1430	381	146	256
10	96	113	428	125	217	368	455	318	3410	327	122	211
11	96	124	395	118	2600	350	450	327	3150	289	111	165
12	91	122	354	118	1710	332	488	400	2000	254	104	140
13	91	115	323	127	1070	318	584	390	1400	230	98	124
14	88	111	293	148	820	327	656	359	1300	217	98	113
15	88	109	269	150	590	309	799	395	1160	201	93	114
16	86	113	251	140	510	309	771	494	876	183	91	286
17	86	128	240	127	527	305	701	483	687	174	88	375
18	83	350	217	120	708	305	736	466	554	165	86	251
19	83	450	211	134	988	297	743	1540	488	151	81	198
20	83	281	192	149	1270	277	813	4340	1250	146	76	172
21	83	220	120	150	1910	273	946	3060	1040	157	71	152
22	83	195	136	160	1530	254	918	1870	771	151	66	136
23	83	177	165	156	1590	251	827	1300	608	135	61	125
24	83	433	140	150	2210	258	750	995	483	135	58	115
25	113	1200	130	143	1570	301	687	792	406	180	56	108
26	273	722	148	135	1130	363	608	656	406	183	63	103
27	208	521	175	177	869	1180	632	590	345	154	51	99
28	154	444	170	217	722	1780	644	1080	289	143	51	90
29	151	390	168	204	---	1360	590	2400	254	154	50	85
30	154	345	165	165	---	1360	560	1860	233	174	50	83
31	138	---	155	138	---	1310	---	1560	---	143	96	---
TOTAL	3380	7689	8998	4433	25618	17146	20666	30329	38550	8195	2944	5761
MEAN	109	256	290	143	915	553	689	978	1285	264	95.0	192
MAX	273	1200	715	217	2600	1780	1060	4340	3480	572	180	427
MIN	83	109	120	100	189	251	450	318	233	135	50	83
CFSM	.17	.40	.45	.22	1.43	.86	1.07	1.52	2.00	.41	.15	.30
IN.	.20	.45	.52	.26	1.48	.99	1.20	1.76	2.23	.47	.17	.33
CAL YR 1980	TOTAL	285204	MEAN 779	MAX 7900	MIN 83	CFSM 1.21	IN 16.53					
WTR YR 1981	TOTAL	173709	MEAN 476	MAX 4340	MIN 50	CFSM .74	IN 10.07					

POTOMAC RIVER BASIN

01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV

LOCATION.--Lat 38°37'53", long 79°14'38", Pendleton County, Hydrologic Unit 02070001, on left bank 50 ft (15 m) upstream from bridge on U.S. Highway 33, 0.1 mi (0.2 km) upstream from Hawes Run, 0.4 mi (0.6 km) north of Brandywine, 0.9 mi (1.4 km) downstream from Broad Run, and at mile 42.9 (69.0 km).

DRAINAGE AREA.--102 mi² (264 km²).

PERIOD OF RECORD.--August 1943 to current year.

REVISED RECORDS.--WSP 1141: 1945(M), 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 1,558.35 ft (474.985 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 24, 1956, nonrecording gage at highway bridge 50 ft (15 m) downstream at same datum.

REMARKS.--Records good except those for Dec. 19 to Feb. 10, which are poor. The flow from 41.3 mi² (107.0 km²) upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 8,882 acre-ft (11.0 hm³).

AVERAGE DISCHARGE.--38 years, 99.4 ft³/s (2.815 m³/s), 13.23 in/yr (336 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,200 ft³/s (1,170 m³/s) June 17, 1949, gage height, 14.6 ft (4.45 m), from floodmarks, from rating curve extended above 5,300 ft³/s (150 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.3 ft³/s (0.008 m³/s) Dec. 1, 10, 1958, result of freezeup; minimum gage height observed, 0.95 ft (0.290 m) Aug. 10, 14, 15, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 765 ft³/s (21.7 m³/s) May 20, gage height, 3.40 ft (1.036 m); minimum, 3.4 ft³/s (0.096 m³/s) Aug. 26-28, gage height, 1.52 ft (0.463 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	7.3	32	9.6	8.0	91	25	30	159	10	5.7	5.8
2	6.0	7.3	32	8.8	94	79	29	28	161	28	5.5	11
3	6.0	7.3	30	5.9	76	70	29	26	171	31	6.0	6.7
4	6.6	7.7	27	6.1	47	61	27	24	143	35	6.2	7.2
5	5.7	8.0	27	6.4	29	58	27	22	134	216	5.6	7.9
6	5.7	8.0	25	8.6	15	52	28	22	177	456	6.4	7.4
7	5.7	7.7	23	8.1	14	44	27	24	191	221	7.3	15
8	5.4	7.7	22	7.8	13	40	27	22	142	130	6.5	9.5
9	5.4	8.6	22	7.5	12	36	27	20	116	85	5.8	7.5
10	5.4	9.7	20	6.9	12	32	26	18	171	51	5.4	6.3
11	5.7	8.6	18	6.3	290	30	24	23	217	36	5.1	5.7
12	5.7	8.0	18	6.2	153	29	24	29	159	26	4.8	5.2
13	5.7	8.0	16	6.2	121	27	30	37	123	20	4.8	4.9
14	5.7	8.0	15	6.5	82	25	30	47	90	16	4.5	4.7
15	5.7	8.0	14	6.9	55	23	32	48	62	13	4.4	5.2
16	5.7	9.7	14	6.7	47	23	32	45	47	11	4.4	14
17	6.0	12	14	6.2	44	22	34	38	43	9.7	4.1	12
18	6.0	58	12	6.4	44	15	37	36	44	9.9	4.0	8.9
19	6.6	34	9.8	6.9	55	18	34	141	39	9.1	3.9	7.5
20	6.6	22	8.0	7.8	132	19	42	623	70	8.8	3.9	6.7
21	6.6	16	7.8	9.3	325	18	48	362	44	7.4	3.8	6.2
22	6.6	14	9.5	10	230	16	52	202	38	6.4	3.7	5.9
23	6.6	12	12	9.7	226	16	55	134	28	5.9	3.7	5.6
24	6.9	55	12	9.2	381	16	53	97	20	11	3.6	5.4
25	10	109	8.4	8.5	239	15	48	77	15	8.8	3.6	5.2
26	16	64	9.8	9.1	167	15	42	59	13	8.9	3.6	5.1
27	9.1	47	12	8.7	128	16	38	45	12	7.7	3.4	4.9
28	7.7	44	12	8.5	106	17	34	61	9.5	8.4	3.6	4.7
29	7.7	40	11	9.0	---	16	31	108	8.5	8.5	3.8	4.6
30	7.3	38	10	8.0	---	18	29	122	7.4	6.9	20	4.6
31	7.3	---	10	7.0	---	22	---	172	---	6.1	8.5	---
TOTAL	209.1	694.6	513.3	238.8	3145.0	979	1021	2742	2654.4	1508.5	165.6	211.3
MEAN	6.75	23.2	16.6	7.70	112	31.6	34.0	88.5	88.5	48.7	5.34	7.04
MAX	16	109	32	10	381	91	55	623	217	456	20	15
MIN	5.4	7.3	7.8	5.9	8.0	15	24	18	7.4	5.9	3.4	4.6
CFSM	.07	.23	.16	.08	1.10	.31	.33	.87	.87	.48	.05	.07
IN.	.08	.25	.19	.09	1.15	.36	.37	1.00	.97	.55	.06	.08
CAL YR 1980	TOTAL	32053.6	MEAN 87.6	MAX 1280	MIN 5.4	CFSM .86	IN 11.69					
WTR YR 1981	TOTAL	14082.6	MEAN 38.6	MAX 623	MIN 3.4	CFSM .38	IN 5.14					

POTOMAC RIVER BASIN

71

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

LOCATION.--Lat 39°00'44", long 78°57'23", Hardy County, Hydrologic Unit 02070001, on right bank 0.2 mi (0.3 km) downstream from Stony Creek, 3.5 mi (5.6 km) south of Moorefield, and at mile 6.0 (9.7 km).

DRAINAGE AREA.--283 mi² (733 km²).

PERIOD OF RECORD.--June 1928 to September 1935, August 1938 to current year.

REVISED RECORDS.--WSP 1141: 1933(M), 1940, 1942-43, 1945, 1948(M). WSP 1302: 1931(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 861.51 ft (262.588 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers datum). Prior to Mar. 11, 1940, nonrecording gage at Harness Ford Bridge 2.0 mi (3.2 km) upstream at datum about 31 ft (9.45 m) higher.

REMARKS.--Records good except those for Dec. 20 to Jan. 20, which are poor. The flow from 92.7 mi² (240.1 km²) upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft (24.5 hm³).

AVERAGE DISCHARGE.--50 years, 218 ft³/s (6.174 m³/s), 10.46 in/yr (266 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s (1,100 m³/s) June 18, 1949, gage height, 16.1 ft (4.91 m), from rating curve extended above 7,000 ft³/s (200 m³/s) on basis of slope-area measurement of peak flow; minimum, 4.4 ft³/s (0.12 m³/s) Sept. 10, 11, 1965, Sept. 9-11, 1966, gage height, 0.92 ft (0.280 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,470 ft³/s (41.6 m³/s) May 20, gage height, 4.06 ft (1.237 m); minimum, 9.0 ft³/s (0.25 m³/s) Jan. 31, gage height, 0.83 ft (0.253 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	32	74	27	20	182	46	115	515	61	27	70
2	31	29	70	25	31	159	49	152	426	70	25	53
3	32	29	68	16	32	139	51	136	828	88	25	93
4	33	28	61	17	46	120	51	118	684	93	24	66
5	32	29	57	18	55	115	55	106	550	104	26	68
6	31	28	55	25	42	109	57	101	667	377	30	61
7	31	27	51	24	37	101	55	96	900	400	31	55
8	30	28	49	21	35	88	53	86	656	267	29	181
9	28	28	49	20	33	81	55	79	475	189	28	143
10	30	32	48	19	32	74	55	72	965	142	25	93
11	28	31	46	17	48	72	59	84	906	115	23	74
12	27	29	42	17	426	68	79	115	600	93	23	84
13	27	27	42	17	252	63	172	123	426	81	22	76
14	25	27	40	18	156	63	172	120	445	74	21	67
15	25	27	39	19	120	59	166	207	408	64	20	60
16	25	29	37	18	91	57	136	237	297	55	20	152
17	25	32	35	17	81	57	115	182	233	49	19	248
18	25	49	34	18	74	53	106	156	182	44	18	160
19	25	63	35	19	74	51	93	332	162	40	17	116
20	24	66	22	20	101	51	98	1130	259	40	17	94
21	24	53	21	27	645	49	93	1120	327	39	16	78
22	23	46	26	28	620	46	96	673	237	34	16	66
23	22	42	32	27	426	46	98	455	182	31	15	57
24	22	96	33	25	585	44	101	332	142	30	15	48
25	37	149	23	24	545	42	101	252	118	29	15	42
26	42	152	26	25	377	39	91	203	106	38	14	37
27	37	118	32	24	278	44	104	182	88	34	14	34
28	40	101	31	24	218	42	120	210	74	35	14	32
29	37	91	29	24	---	40	118	1120	66	33	14	29
30	33	81	28	22	---	42	106	852	59	33	14	28
31	32	---	28	19	---	42	---	620	---	30	24	---
TOTAL	915	1599	1263	661	5480	2238	2751	9766	11983	2812	641	2465
MEAN	29.5	53.3	40.7	21.3	196	72.2	91.7	315	399	90.7	20.7	82.2
MAX	42	152	74	28	645	182	172	1130	965	400	31	248
MIN	22	27	21	16	20	39	46	72	59	29	14	28
CFSM	.10	.19	.14	.08	.69	.26	.32	1.11	1.41	.32	.07	.29
IN.	.12	.21	.17	.09	.72	.29	.36	1.28	1.58	.37	.08	.32
CAL YR 1980	TOTAL	86943	MEAN 238	MAX 3290	MIN 21	CFSM .84	IN 11.43					
WTR YR 1981	TOTAL	42574	MEAN 117	MAX 1130	MIN 14	CFSM .41	IN 5.60					

POTOMAC RIVER BASIN

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi (3.2 km) east of Springfield, and at mile 13.4 (21.6 km).

DRAINAGE AREA.--1,471 mi² (3,810 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30 (M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft (171.304 m) National Geodetic Vertical Datum of 1929. June 1894 to February 1896, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 mi (18.0 km) upstream at different datum. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10.0 mi (16.1 km) upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records good except those for Dec. 21 to Feb. 10, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1900-01, 1904-05, 1929-81), 1,294 ft³/s (36.65 m³/s), 11.95 in/yr (304 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s (4,050 m³/s) Mar. 18, 1936, gage height, 34.2 ft (10.42 m), from rating curve extended above 28,000 ft³/s (793 m³/s) on basis of measurement made about 10 mi (16 km) upstream from station, adjusted for storage and inflow and slope-area measurement at gage height 29.84 ft (9.095 m); minimum, 29 ft³/s (0.82 m³/s) Jan. 28, 1956, result of freezeup, July 30, 1966, result of temporary dam; minimum gage height 0.39 (0.119) July 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft (10.4 m), from floodmarks, discharge, 140,000 ft³/s (3,960 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,700 ft³/s (218 m³/s) June 11, gage height, 8.16 ft (2.487 m), no peak above base of 10,000 ft³/s (280 m³/s); minimum, 56 ft³/s (1.59 m³/s) Aug. 27, gage height, 1.28 ft (0.390 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	240	604	299	248	1240	1530	931	2460	389	239	93
2	150	222	537	293	326	1230	1310	1930	2060	435	205	231
3	154	207	570	317	599	1080	1200	1720	2110	654	190	568
4	154	201	890	321	924	950	1030	1370	2660	718	190	729
5	158	197	842	175	584	880	897	1130	2640	689	186	842
6	154	194	722	226	531	854	816	957	3340	647	186	690
7	150	194	644	237	457	825	772	875	5720	1150	216	506
8	147	197	593	266	462	753	704	799	4090	1040	240	397
9	144	194	559	279	435	697	645	693	2800	790	255	483
10	144	194	532	286	420	671	612	616	2670	640	236	474
11	144	197	586	270	436	643	628	583	6200	538	201	391
12	144	197	577	239	3080	612	771	874	3830	475	175	321
13	140	205	526	248	1900	576	2260	963	2700	420	164	283
14	137	205	487	248	1310	541	2200	798	2750	385	154	254
15	134	197	450	285	1120	526	2020	720	3240	361	147	240
16	134	205	416	298	839	523	1760	984	2140	338	147	371
17	134	212	395	297	723	509	1470	1030	1580	311	144	1380
18	134	279	382	285	730	502	1290	885	1220	288	134	873
19	134	575	362	284	972	487	1240	1030	958	270	128	572
20	131	664	337	293	1670	478	1190	5170	1930	257	125	440
21	131	490	316	303	3570	457	1290	6270	2390	260	119	372
22	131	395	275	301	3780	439	1360	3980	1660	234	113	328
23	131	354	248	304	2850	428	1300	2720	1250	237	107	289
24	131	566	240	294	3390	402	1220	2010	968	248	105	255
25	190	2080	234	266	3340	395	1110	1570	764	232	100	229
26	270	1730	248	270	2440	409	1010	1260	657	234	99	210
27	334	1140	270	270	1830	466	916	1050	613	311	81	197
28	375	888	288	266	1460	1580	1080	968	541	270	93	184
29	292	782	306	284	---	2050	1070	2740	465	285	91	174
30	253	689	296	221	---	1660	967	3780	420	249	91	163
31	250	---	266	186	---	1650	---	2940	---	243	98	---
TOTAL	5363	14090	13998	8411	40426	24513	35668	53346	66826	13598	4759	12539
MEAN	173	470	452	271	1444	791	1189	1721	2228	439	154	418
MAX	375	2080	890	321	3780	2050	2260	6270	6200	1150	255	1380
MIN	131	194	234	175	248	395	612	583	420	232	81	93
CFSM	.12	.32	.31	.18	.98	.54	.81	1.17	1.52	.30	.11	.28
IN.	.14	.36	.35	.21	1.02	.62	.90	1.35	1.69	.34	.12	.32
CAL YR 1980	TOTAL	527141	MEAN	1440	MAX	19200	MIN	131	CFSM	.98	IN	13.33
WTR YR 1981	TOTAL	293537	MEAN	804	MAX	6270	MIN	81	CFSM	.55	IN	7.42

POTOMAC RIVER BASIN

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01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963, 1965, 1969, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	ACIDITY (MG/L AS +)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 22...	0945	133	260	7.8	13.0	130	.0	41	6.6	3.1	5
DEC 16...	1315	410	190	8.2	3.5	87	.0	28	4.0	2.5	--
JAN 29...	1230	286	210	7.0	.5	130	.0	41	5.7	3.2	--
MAR 17...	1620	533	220	8.0	4.0	81	.0	25	4.6	3.0	--
MAY 13...	1245	911	200	7.4	14.5	76	.0	23	4.6	4.1	--
JUL 08...	1020	1090	197	8.2	23.0	--	--	--	--	--	--
20...	1445	252	235	7.9	28.0	110	.0	36	5.2	3.2	--
AUG 25...	1330	102	274	8.0	22.0	120	.0	38	6.3	2.0	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT 22...	.1	1.6	94	32	3.8	.0	.7	161	.22	57.8	--
DEC 16...	.1	--	61	25	3.1	--	.2	103	.14	114	--
JAN 29...	.1	--	58	30	3.5	--	<.0	144	.20	111	<.010
MAR 17...	.1	--	88	26	3.6	--	--	124	.17	178	--
MAY 13...	.2	--	96	27	3.3	--	5.3	111	.15	273	<.010
JUL 08...	--	--	--	--	--	--	--	--	--	--	--
20...	.1	--	100	22	3.4	--	--	142	.19	96.6	--
AUG 25...	.1	--	110	28	--	--	5.5	187	.20	51.5	<.010

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 22...	--	--	--	--	--	--	--	--	--	--	230
DEC 16...	--	--	--	--	--	40	<0	1	<3	<10	90
JAN 29...	.03	.26	.080	.010	.03	60	<1	3	<3	<10	120
MAR 17...	--	--	--	--	--	--	--	--	--	--	220
MAY 13...	--	.42	--	<.010	--	60	<1	<1	<3	<10	380
JUL 08...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	380
AUG 25...	--	<.01	<.010	<.010	--	60	1	1	3	10	290

POTOMAC RIVER BASIN

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	200	30	--	--	20	20	2	--	--	--	--
DEC 16...	70	23	13	<4	10	6	4	<10	200	<6.0	17
JAN 29...	--	<10	16	6	<10	--	6	15	330	<6.0	20
MAR 17...	--	<10	--	--	20	20	5	--	--	--	--
MAY 13...	330	50	<10	<4	40	30	10	<10	180	<6.0	7
JUL 20...	360	20	--	--	30	30	5	--	--	--	--
AUG 25...	280	9	10	4	40	40	5	10	410	6.0	43

POTOMAC RIVER BASIN

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01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft (76 m) upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi (5.3 km) downstream from Little Cacapon River, and at mile 277 (446 km).

DRAINAGE AREA.--3,109 mi² (8,052 km²).

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft (148.706 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft (76 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow affected by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Bloomington Reservoir (see station 01595800). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--43 years, 3,258 ft³/s (92.27 m³/s), 14.23 in/yr (361 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 111,000 ft³/s (3,140 m³/s) Oct. 16, 1942, gage height, 38.36 ft (11.692 m); minimum discharge, 164 ft³/s (4.64 m³/s) Sept. 10, 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft (16.46 m) Mar. 18, 1936, discharge, 240,000 ft³/s (6,800 m³/s), from rating curve extended above 85,000 ft³/s (2,410 m³/s) on basis of slope-area measurement of peak flow at site 5.0 mi (8.0 km) upstream at Okonoko, W. Va.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,100 ft³/s (711 m³/s) Apr. 13, gage height, 17.38 ft (5.297 m), no other peak above base of 20,000 ft³/s (560 m³/s); minimum discharge, 269 ft³/s (7.62 m³/s) Aug. 28, gage height, 3.14 ft (0.957 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 to SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	466	649	2330	900	1000	4440	3520	3050	6420	1330	713	636
2	452	590	2090	800	2300	4610	3230	5070	5560	1290	615	1100
3	463	548	2390	750	3000	3900	3130	5320	5350	2060	557	2280
4	462	528	3270	700	2500	3600	2760	4260	6420	2360	623	2260
5	454	512	2870	600	2300	3190	2550	3620	8160	2070	607	4110
6	452	495	2540	450	1900	3020	2440	3500	7770	1880	571	3630
7	440	495	2300	470	1800	2970	2340	3210	11300	2020	628	2500
8	432	523	2130	500	1650	2840	2140	2790	9140	2160	714	1620
9	421	512	1980	550	1450	2680	1960	2360	6450	1820	686	1570
10	404	511	2190	500	1600	2620	1770	2080	5680	1550	635	1570
11	388	503	2610	550	2220	2570	1740	2590	9840	1370	568	1240
12	417	542	2280	530	5200	2540	2920	5930	7560	1240	510	964
13	422	557	2060	500	5140	2430	18900	4860	5610	1090	452	750
14	419	534	2060	420	3910	2430	18400	3780	5040	977	447	653
15	407	517	1970	480	3360	2630	14700	3390	8720	847	452	628
16	398	518	1800	500	2720	2480	10400	4140	5940	777	436	1000
17	397	537	1570	490	2350	2480	7370	3860	4170	699	430	2610
18	395	676	1270	450	2610	2350	5960	3310	3330	646	425	2490
19	390	980	1240	400	3580	2200	5250	3290	2780	607	395	1580
20	383	1590	1250	450	6520	2100	4610	7770	4280	591	353	1230
21	378	1250	980	500	10800	1940	4420	10700	5970	592	342	1040
22	375	975	831	550	11800	1820	4070	7860	4600	595	333	948
23	375	865	780	570	9280	1710	3730	5640	4170	566	320	844
24	375	2050	800	540	11100	1640	3600	4610	3150	587	321	750
25	533	6630	700	500	10200	1640	3690	3820	2480	692	317	666
26	1260	5470	600	520	7490	1640	3500	2990	2460	685	311	641
27	1350	3570	550	640	6090	1690	3190	2800	2890	768	305	604
28	1060	2880	650	1300	4550	3860	3580	2760	2130	937	280	563
29	824	2640	750	1850	---	5010	3420	6010	1740	1090	301	551
30	698	2400	800	1950	---	3810	3110	8640	1490	1100	298	592
31	725	---	950	1150	---	3640	---	7150	---	799	437	---
TOTAL	16415	41047	50591	21060	128420	86480	152400	141160	160600	35795	14382	41620
MEAN	530	1368	1632	679	4586	2790	5080	4554	5353	1155	464	1387
MAX	1350	6630	3270	1950	11800	5010	18900	10700	11300	2360	714	4110
MIN	375	495	550	400	1000	1640	1740	2080	1490	566	280	551

CAL YR 1980 TOTAL 1276057 MEAN 3486 MAX 32300 MIN 375 CFSM 1.12 IN 15.27
WTR YR 1981 TOTAL 889970 MEAN 2438 MAX 18900 MIN 280 CFSM .78 IN 10.65

POTOMAC RIVER BASIN

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV

LOCATION.--Lat 39°34'43", long 78°18'34", Morgan County, Hydrologic Unit 02070003, on left bank at Rock Ford, 3.0 mi (4.8 km) southwest of Great Cacapon, and at mile 6.5 (10.5 km).

DRAINAGE AREA.--677 mi² (1,753 km²).

PERIOD OF RECORD.--December 1922 to current year.

REVISED RECORDS.--WSP 800: 1924(M). WSP 921: Drainage area. WSP 951: 1936-37, WSP 1552: 1925-26(M), 1928, 1929(M), 1932.

GAGE.--Water-stage recorder. Datum of gage is 456.78 ft (139.227 m) Corps of Engineers datum. Prior to Nov. 10, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good except those for period of no gage-height record, June 16 to July 7, and those for Dec. 20 to Jan. 31, which are poor.

AVERAGE DISCHARGE.--58 years (water years 1924-81), 586 ft³/s (16.60 m³/s), 11.75 in/yr (298 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,600 ft³/s (2,480 m³/s) Mar. 18, 1936, gage height, 30.1 ft (9.17 m), from rating curve extended above 52,000 ft³/s (1,470 m³/s); minimum, 26 ft³/s (0.74 m³/s) Sept. 11-13, 1966; minimum gage height, 0.35 ft (0.107 m) Sept. 21, 22, 1932, Sept. 11-13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1889 reached a stage of 24.7 ft (7.53 m), from floodmarks, discharge, 57,500 ft³/s (1,630 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,670 ft³/s (104 m³/s) Apr. 14, gage height, 6.66 ft (2.030 m), no peak above base of 3,900 ft³/s (110 m³/s); minimum 49 ft³/s (1.39 m³/s) Aug. 27-30, gage height, 0.69 ft (0.210 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	96	251	102	123	510	205	448	968	290	109	50
2	74	89	221	96	143	448	215	920	785	1000	91	51
3	74	84	197	90	234	392	251	1180	750	1100	82	58
4	77	84	185	86	284	342	268	926	1020	1800	81	96
5	79	86	182	102	271	321	253	735	1390	900	84	122
6	79	81	170	100	223	328	245	610	1090	300	81	122
7	79	82	160	98	180	335	237	530	1050	163	84	111
8	77	84	155	94	149	331	226	476	1100	151	87	158
9	76	84	151	92	141	307	210	400	842	145	91	258
10	76	84	147	89	131	300	200	346	710	127	133	227
11	77	84	141	86	141	307	205	338	1170	111	109	166
12	74	87	137	83	380	297	342	775	1060	100	93	135
13	71	86	133	81	860	284	1940	1090	695	93	79	110
14	70	86	125	85	600	265	3250	884	896	87	73	93
15	70	84	121	87	321	245	2610	730	1470	82	70	88
16	70	87	115	90	271	239	1960	745	1380	77	65	107
17	71	93	113	93	221	248	1450	908	1000	77	63	283
18	74	117	111	96	213	262	1180	780	600	74	63	538
19	74	129	111	99	218	245	962	700	450	73	60	309
20	70	149	105	102	456	231	795	1380	820	74	58	219
21	67	177	96	105	1650	218	785	2040	800	82	56	164
22	68	157	102	91	2220	205	680	1420	1040	74	54	135
23	71	141	94	81	1590	197	595	1020	760	70	54	118
24	71	271	98	76	1540	185	585	765	620	77	51	103
25	100	1420	104	89	1390	177	555	605	500	109	51	92
26	155	1030	102	100	1020	170	476	480	415	94	50	84
27	237	530	97	109	760	165	420	404	375	81	50	79
28	226	364	92	104	600	162	416	368	337	98	49	75
29	155	314	93	99	---	165	472	545	315	157	51	71
30	123	287	97	137	---	185	452	968	295	192	50	68
31	105	---	98	123	---	187	---	950	---	149	53	---
TOTAL	2866	6547	4104	2965	16330	8253	22440	24466	24703	8007	2225	4290
MEAN	92.5	218	132	95.6	583	266	748	789	823	258	71.8	143
MAX	237	1420	251	137	2220	510	3250	2040	1470	1800	133	538
MIN	67	81	92	76	123	162	200	338	295	70	49	50
CFSM	.14	.32	.20	.14	.86	.39	1.11	1.17	1.22	.38	.11	.21
IN.	.16	.36	.23	.16	.90	.45	1.23	1.34	1.36	.44	.12	.24
CAL YR 1980	TOTAL	209397	MEAN 572	MAX 9810	MIN 67	CFSM .85	IN 11.51					
WTR YR 1981	TOTAL	127196	MEAN 348	MAX 3250	MIN 49	CFSM .51	IN 6.99					

01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, Hydrologic Unit 02070004, on left bank 0.2 mi (0.3 km) downstream from Little Tonoloway Creek, 0.5 mi (0.8 km) downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi (1.8 km) upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239 (385 km).

DRAINAGE AREA.--4,073 mi² (10,549 km²).

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of U.S. Weather Service.

REVISED RECORDS.--WSP 781: 1933(M). WSP 801: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 383.68 ft (116.946 m) National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Bloomington Reservoir (see station 01595800). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--49 years, 4,129 ft³/s (116.9 m³/s), 13.77 in/yr (350 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 340,000 ft³/s (9,630 m³/s) Mar. 18, 1936, gage height, 47.6 ft (14.508 m), from rating curve extended above 120,000 ft³/s (3,400 m³/s) on basis of slope-area measurement of peak flow; minimum discharge observed, 180 ft³/s (5.10 m³/s) Oct. 4, 1932, gage height, 2.01 ft (0.613 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft (12.2 m) in May 1889, discharge, about 220,000 ft³/s (6,230 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,900 ft³/s (847 m³/s) April 14, gage height, 15.15 ft (4.618 m), no other peak above base of 23,000 ft³/s (650 m³/s); minimum discharge, 335 ft³/s (9.49 m³/s) Aug. 30, gage height, 2.39 ft (0.728 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	582	1000	2970	1100	1200	5570	3830	3730	8530	1970	1070	425
2	560	919	2780	1050	2500	5260	3810	3780	7770	1760	869	585
3	537	837	2620	950	3500	5130	3670	5000	6780	1740	763	1050
4	526	767	2600	900	2900	4630	3560	5690	6430	2100	683	1960
5	526	713	2860	850	2600	4250	3340	5350	7930	2530	683	2410
6	526	668	2950	720	2200	3860	3100	4740	9610	2510	701	3740
7	522	632	2890	550	2100	3580	2930	4340	10400	2360	703	3720
8	518	613	2770	580	2000	3450	2790	3980	12100	2280	694	3150
9	513	612	2630	600	1800	3330	2620	3510	9240	2320	758	2680
10	505	612	2490	650	2000	3200	2430	2980	7970	2090	784	2380
11	497	601	2450	620	2600	3150	2220	2660	9680	1780	761	2200
12	481	594	2540	680	5600	3050	2230	3510	10500	1560	669	1970
13	471	596	2540	650	5500	3000	15000	5290	8570	1420	597	1590
14	471	625	2440	600	4300	3100	27100	5760	7230	1270	538	1220
15	471	629	2350	520	3800	3300	22000	5220	7530	1130	509	978
16	471	629	2270	580	3600	3100	15400	4750	9800	994	523	893
17	471	624	2140	620	3100	3100	10900	4960	7030	894	489	1020
18	471	662	1980	600	2800	2800	9030	4830	5150	817	476	2210
19	471	723	1750	540	3000	2600	8010	4360	4220	757	480	2750
20	466	863	1590	480	3900	2400	6940	4390	3620	715	454	2450
21	456	1220	1510	540	3360	2250	6100	12400	4200	717	419	2180
22	452	1370	1000	600	14400	2100	5610	10800	5230	705	400	1860
23	446	1320	844	650	13500	2000	5120	8770	5130	684	391	1520
24	445	1300	913	700	12700	1900	4730	7330	4720	669	381	1290
25	459	2360	936	650	13500	1900	4470	5990	3920	641	374	1130
26	554	5010	840	600	10900	1900	4350	4950	3200	756	374	1040
27	969	5540	720	700	9010	1950	4140	4110	2880	824	371	966
28	1390	4170	650	1500	7090	5500	3880	3620	2940	815	368	915
29	1340	3510	780	2100	---	5000	3990	3530	2580	988	355	871
30	1260	3210	880	2300	---	4400	3950	7740	2260	1180	347	812
31	1110	---	940	1350	---	4100	---	9270	---	1260	413	---
TOTAL	18987	42929	59623	25530	151460	104870	197250	167340	196150	42286	17399	51965
MEAN	612	1431	1923	824	5409	3383	6575	5398	6538	1364	561	1732
MAX	1390	5540	2970	2300	14400	5570	27100	12400	12100	2530	1070	3740
MIN	445	594	650	480	1200	1900	2220	2660	2260	669	347	425
CFSM	.15	.35	.47	.20	1.33	.83	1.61	1.33	1.61	.34	.14	.43
IN.	.17	.39	.54	.23	1.38	.96	1.90	1.53	1.79	.39	.16	.47
CAL YR 1980 TOTAL	1555623	MEAN	4750	MAX	35300	MIN	445	CFSM	1.74	IN	14.21	
WTR YR 1981 TOTAL	1075789	MEAN	2947	MAX	27100	MIN	347	CFSM	.72	IN	9.83	

POTOMAC RIVER BASIN

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV

LOCATION.--Lat 39°25'25", long 77°56'20", Berkeley County, Hydrologic Unit 02070004, on right bank 300 ft (91 m) upstream from Evans Run, 2.3 mi (3.7 km) upstream from Tuscarora Creek, 3.0 mi (4.8 km) southeast of Martinsburg, and at mile 11.1 (17.9 km).

DRAINAGE AREA.--272 mi² (704 km²).

PERIOD OF RECORD.--May 1905 to July 1906, July 1947 to current year.

REVISED RECORDS.--WSP 1702: 1959.

GAGE.--Water-stage recorder. Datum of gage is 354.89 ft (108.170 m) National Geodetic Vertical Datum of 1929. Prior to July 1906, nonrecording gage at approximately the same site at different datum. July 23, 1947, to July 22, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good except those for Dec. 21 to Jan. 31, which are poor.

AVERAGE DISCHARGE.--34 years (water years 1947-81), 227 ft³/s (6.429 m³/s), 11.33 in/yr (288 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s (538 m³/s) June 22, 1972, gage height, 17.45 ft (5.319 m), from rating curve extended above 7,100 ft³/s (200 m³/s); minimum observed, 25 ft³/s (0.71 m³/s) Oct. 25, 1947; minimum gage height, 1.24 ft (0.378 m) Jan. 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 17.5 ft (5.33 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft³/s (30.6 m³/s) June 4, gage height, 5.82 (1.774 m), no peak above base of 1,900 ft³/s (54 m³/s); minimum, 32 ft³/s (0.91 m³/s) Jan. 24, gage height, 1.43 ft (0.436 m), as a result of ice jam upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	62	88	59	76	173	83	128	159	85	110	65
2	65	62	82	55	115	154	102	305	145	187	100	65
3	67	59	82	51	258	141	99	208	189	185	95	62
4	73	61	77	47	153	129	88	160	578	483	97	62
5	68	62	74	51	109	140	89	138	356	347	91	70
6	65	62	73	66	88	168	124	126	219	186	89	66
7	64	62	71	66	68	195	104	121	182	141	102	64
8	64	60	68	51	58	187	95	112	150	119	94	61
9	64	61	70	48	55	168	92	101	134	109	88	62
10	65	61	68	45	77	154	94	97	147	100	85	60
11	64	62	66	43	160	146	92	106	164	93	79	58
12	62	61	65	42	262	135	159	167	128	89	78	55
13	61	60	64	40	145	126	710	141	117	88	76	55
14	61	61	63	41	100	118	621	117	207	85	74	54
15	61	61	61	44	89	111	517	111	217	82	72	55
16	62	62	61	45	78	110	321	111	140	81	74	71
17	63	63	63	46	87	113	251	101	120	81	72	76
18	62	106	61	47	88	106	225	95	107	80	68	60
19	64	110	62	49	95	101	195	107	100	77	66	54
20	63	82	60	51	417	95	183	133	157	76	65	52
21	63	70	53	53	519	94	169	117	154	77	64	51
22	61	67	57	47	354	89	152	99	196	74	63	51
23	61	64	64	38	377	86	149	90	159	71	63	51
24	60	133	54	34	564	84	160	85	122	77	61	48
25	89	333	65	39	348	82	158	82	112	79	60	48
26	160	162	59	43	247	79	134	79	107	75	60	48
27	89	113	55	47	203	79	125	78	96	94	59	48
28	72	110	53	53	183	76	123	79	91	157	58	47
29	68	114	54	50	---	74	116	314	88	513	58	46
30	66	100	59	51	---	78	109	192	87	182	56	46
31	63	---	66	55	---	88	---	155	---	126	57	---
TOTAL	2136	2606	2018	1497	5373	3679	5639	4055	4928	4299	2334	1711
MEAN	68.9	86.9	65.1	48.3	192	119	188	131	164	139	75.3	57.0
MAX	160	333	88	66	564	195	710	314	578	513	110	76
MIN	60	59	53	34	55	74	83	78	87	71	56	46
CFSM	.25	.32	.24	.18	.71	.44	.69	.48	.60	.51	.28	.21
IN.	.29	.36	.28	.20	.73	.50	.77	.55	.67	.59	.32	.23
CAL YR 1980	TOTAL	75912	MEAN 207	MAX 1860	MIN 53	CFSM .76	IN 10.38					
WTR YR 1981	TOTAL	40275	MEAN 110	MAX 710	MIN 34	CFSM .40	IN 5.51					

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, Hydrologic Unit 02070004, on right bank 0.1 mi (0.2 km) downstream from Rumsey Bridge at Shepherdstown, 3.3 mi (5.3 km) upstream from Antietam Creek, and at mile 184 (296 km).

DRAINAGE AREA.--5,936 mi² (15,374 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums, water years 1954-64. July 1964 to current year. Gage-height record and estimated discharges October 1953 to June 1964 available in files of Maryland district office.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft (85.649 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Some regulation at low flow by power plants above station, Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Bloomington Reservoir (see station 01595800). Gage-height telemeter at station.

AVERAGE DISCHARGE.--42 years (water years 1929-53, 1965-81), 6,098 ft³/s (172.7 m³/s), 13.95 in/yr (354 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335,000 ft³/s (9,490 m³/s) Mar. 19, 1936, gage height, 42.1 ft (12.83 m), from floodmarks, from rating curve extended above 200,000 ft³/s (5,660 m³/s) on basis of slope-area measurement of peak flow; minimum discharge, 170 ft³/s (4.81 m³/s) Aug. 1, 1966; minimum daily discharge, 185 ft³/s (5.24 m³/s) July 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft (11.95 m) and 29.8 ft (9.08 m) respectively, from floodmarks, discharges, about 290,000 ft³/s (8,210 m³/s) and 168,000 ft³/s (4,760 m³/s) respectively, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft³/s (650 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 25	0100	25900 733	9.51 2.899	Apr. 14	1030	*41500 1180	12.79 3.898

Minimum discharge, 607 ft³/s (17.2 m³/s) Oct. 23, gage height, 1.57 ft (0.479 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	826	1170	3690	1350	1700	8250	4610	5470	9620	2750	2350	805
2	851	1030	3240	1250	1600	7350	4630	5970	8700	2490	2010	1020
3	872	1090	3320	1200	2500	7180	4370	7370	7690	3460	1850	1070
4	868	1080	2980	1150	4000	6210	4090	8220	8090	4510	1820	1620
5	850	961	3700	1050	3600	5650	4200	7010	11100	6940	1830	2630
6	827	914	3840	900	3200	5440	4090	6000	12400	5430	1780	3480
7	822	926	3430	700	2800	5160	3760	5480	11000	4380	1870	4400
8	790	811	3160	750	2600	5080	3330	5190	13800	3780	1580	3690
9	813	839	2950	780	2470	5080	3390	4800	11900	3580	1540	2840
10	799	881	2780	800	2250	4910	3240	4380	9160	3300	1500	2300
11	802	856	2760	750	2350	5170	3110	4310	8200	2830	1460	2340
12	787	873	3140	850	4630	5100	3750	7060	12200	2530	1460	2140
13	758	870	3140	800	5470	4820	16000	11800	10100	2230	1350	1760
14	732	874	2860	750	6410	4630	40200	9370	7840	1980	1250	1460
15	702	935	2640	650	5330	4400	37800	7290	9190	1790	1270	1270
16	725	906	2670	700	4750	4500	27000	6310	12100	1650	1250	1310
17	763	926	2470	800	4480	4540	19000	6660	9080	1620	1100	1270
18	755	1180	2330	750	4160	4460	14300	6620	6300	1510	949	1860
19	748	1240	2090	650	4040	4280	11700	5980	5060	1490	1070	3730
20	777	1410	1850	600	7460	4020	9810	5670	5520	1450	1130	2930
21	777	1750	1570	700	19500	3860	8400	10200	5840	1340	1150	2200
22	727	2090	1470	750	20500	3620	7750	14000	8480	1500	1020	1840
23	677	1870	1330	800	19800	3400	7100	10500	7200	1480	898	1640
24	726	1940	998	900	23900	3150	6480	7950	6030	1540	999	1400
25	950	6790	1200	800	23500	2950	6290	6410	5070	1830	965	1330
26	1230	11300	1050	750	17400	2810	5820	5330	4180	1710	990	1130
27	1620	8620	900	800	12800	2720	4680	4430	3750	2000	941	1120
28	2100	5780	800	950	10400	2710	4890	4040	3850	2330	775	1100
29	2010	4560	950	1900	---	3330	5060	4150	3570	3280	829	1050
30	1740	3960	1100	2700	---	6040	5540	7950	3160	3010	701	976
31	1300	---	1200	3000	---	5030	---	11500	---	2530	854	---
TOTAL	29724	68452	71608	31280	223600	145850	284390	217420	240180	82250	40541	57711
MEAN	959	2282	2310	1009	7986	4705	9480	7014	8006	2653	1308	1924
MAX	2100	11300	3840	3000	23900	8250	40200	14000	13800	6940	2350	4400
MIN	677	831	800	600	1600	2710	3110	4040	3160	1340	701	805
CFSM	.16	.38	.39	.17	1.35	.79	1.60	1.18	1.35	.45	.22	.32
IN.	.19	.43	.45	.20	1.40	.91	1.78	1.36	1.51	.52	.25	.36

CAL YR 1980	TOTAL	2216946	MEAN	6057	MAX	44900	MIN	665	CFSM	1.02	IN	13.89
WTR YR 1981	TOTAL	1493006	MEAN	4090	MAX	40200	MIN	600	CFSM	.69	IN	9.36

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981 (discontinued).

WATER TEMPERATURES: October 1980 to September 1981 (discontinued).

REMARKS.--Daily samples collected by a local observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 670 micromhos Aug. 6, 10, 15, 30, Sept. 3, 1981; minimum, 160 micromhos Apr. 14, 15, 1981.

WATER TEMPERATURES: Maximum, 30.0°C July 17, 21, 25, 1981; minimum, 1.0°C Feb. 13, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03)
NOV												
12...	1330	811	505	8.5	--	7.5	1.7	--	--	160	180	74
JAN												
19...	1500	650	460	7.9	--	.5	2.6	15.2	--	--	49	--
MAR												
17...	1315	4340	185	8.0	7.0	6.0	1.1	12.4	K1	K5	96	--
MAY												
20...	1200	5390	210	7.7	18.0	17.0	4.3	10.0	100	100	46	36
JUL												
20...	1400	1250	370	8.5	33.5	28.5	.60	10.8	K18	500	160	59
SEP												
14...	1230	1350	340	--	28.0	24.5	3.2	11.2	K16	1100	140	71

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM 40 DIS- SOLVED (PC/L AS K40)	ALKA- LINITY LAH (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV											
12...	57	10	23	21	.7	3.3	--	110	79	37	.2
JAN											
19...	14	3.3	30	55	1.9	3.9	2.9	.00	18	39	.3
MAR											
17...	29	5.7	7.5	14	.3	1.7	1.3	54	37	11	<.1
MAY											
20...	26	5.0	6.4	14	.3	1.9	1.4	50	26	9.9	<.1
JUL											
20...	49	8.9	10	12	.3	2.2	1.6	100	39	17	.1
SEP											
14...	44	6.4	8.7	12	.3	2.1	--	65	66	13	.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- TOTAL (MG/L AS NH4)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)
NOV											
12...	2.0	304	282	.41	666	.86	.58	.010	.020	.01	.03
JAN											
19...	9.4	154	130	.21	270	2.6	2.6	2.10	2.00	2.5	2.6
MAR											
17...	4.6	149	135	.20	1750	1.3	1.3	.020	.030	--	.04
MAY											
20...	5.3	150	124	.20	2180	.66	.65	.050	.070	--	.09
JUL											
20...	1.8	243	192	.33	820	.89	.82	<.010	<.010	--	.01
SEP											
14...	4.4	213	188	.29	776	.86	.86	.030	.050	--	.06

K Results based on colony count outside the acceptable range (non-ideal colony count).

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN. ORGANIC TOTAL (MG/L AS N)	NITRO- GEN. ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN. AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN. NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN. AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN. TOTAL (MG/L AS N)	NITRO- GEN. DIS- SOLVED (MG/L AS N)	NITRO- GEN. TOTAL (MG/L AS N03)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS P04)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
NOV 12...	.23	.18	.24	.04	.20	1.1	1.1	4.9	.060	.18	.050
JAN 19...	.90	1.2	3.00	.00	3.2	5.6	5.8	25	1.20	3.7	.850
MAR 17...	.20	--	.22	--	<.10	1.5	--	6.7	.050	.15	.030
MAY 20...	.30	.15	.35	.13	.22	1.0	.87	4.5	.060	.18	.030
JUL 20...	--	--	.70	--	<.10	1.6	--	7.0	.030	.09	<.010
SEP 14...	.31	.17	.34	.12	.22	1.2	1.1	5.3	.080	.25	.040

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)
NOV 12...	1	0	1	100	40	60	0	0	0	10	0
JAN 19...	1	0	1	100	90	10	0	--	<1	10	--
MAY 20...	1	0	2	100	60	40	1	0	2	10	0
JUL 20...	1	0	1	100	40	60	1	0	1	10	0

	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CORALT, TOTAL RECOV- ERABLE (UG/L AS CO)	CORALT, SUS- PENDED RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
NOV 12...	10	0	0	3	3	1	2	220	200	20	10
JAN 19...	<10	4	1	3	8	4	4	1100	780	320	5
MAY 20...	10	1	1	0	19	17	2	510	480	30	5
JUL 20...	10	1	0	3	3	1	2	150	140	<10	28

DATE	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDED RECOV- ERABLE (UG/L AS NI)
NOV 12...	10	0	40	40	3	<.1	--	<.1	6	0
JAN 19...	5	0	250	20	230	.3	.2	.1	16	12
MAY 20...	5	0	70	50	20	<.1	--	<.1	19	14
JUL 20...	27	1	50	49	<1	.2	.0	.2	11	8

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NICKEL, DIS- SOLVED (UG/L AS NI)	SELF- NIUM, TOTAL (UG/L AS SE)	SELF- NIUM, SUS- PENDED TOTAL (UG/L AS SE)	SELF- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 12...	4	0	0	0	0	0	0	10	10	0
JAN 19...	4	0	0	0	1	1	0	40	30	7
MAY 20...	5	0	0	0	0	0	0	10	--	<4
JUL 20...	3	0	0	0	0	0	0	20	--	<4

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SFD, SUSP. STIEVE DIAM. % FINER THAN .062 MM
NOV 12...	--	4.6	--	--	--	--	--
JAN 19...	--	4.9	.1	--	1	1.4	100
MAR 17...	2.0	--	--	400	3	94	97
MAY 20...	--	2.5	.4	--	6	87	99
JUL 20...	--	2.2	--	20000	6	20	100
SEP 14...	3.2	--	--	5200	8	29	100

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	460	510	250	400	---	200	240	170	205	288	445	445
2	450	480	230	410	---	210	320	170	195	325	530	540
3	450	470	255	365	---	200	245	175	225	325	435	670
4	440	490	280	405	---	255	265	195	195	325	450	530
5	440	490	295	410	355	300	---	170	190	365	540	530
6	460	500	290	410	---	255	240	195	240	288	670	535
7	470	495	300	400	---	300	---	195	205	195	530	665
8	480	460	320	---	360	260	---	195	225	290	360	405
9	490	460	320	430	300	275	270	200	185	325	545	365
10	490	475	290	485	180	280	---	195	245	370	670	205
11	490	480	280	510	330	---	260	200	205	330	445	370
12	490	455	280	485	330	---	260	225	225	380	370	340
13	500	435	290	505	300	325	260	205	200	370	540	365
14	505	435	290	465	190	310	160	180	245	330	445	345
15	510	430	280	505	---	305	160	205	205	375	670	420
16	505	425	310	490	300	305	---	225	270	375	540	440
17	510	435	310	---	250	305	---	195	205	370	530	205
18	490	435	315	---	---	305	---	195	225	435	665	525
19	485	440	300	---	300	270	---	195	245	375	445	195
20	470	420	310	---	250	300	---	225	205	450	350	420
21	470	435	320	490	180	265	---	195	325	370	530	490
22	470	440	340	---	---	310	---	195	225	370	660	460
23	480	440	340	---	170	280	---	195	270	435	445	490
24	480	425	340	---	180	350	---	225	320	380	360	405
25	490	430	---	---	170	270	---	205	230	380	530	355
26	490	270	340	525	---	280	465	195	265	440	540	490
27	500	290	350	520	200	270	170	200	290	435	445	410
28	500	340	350	510	210	360	---	195	250	455	360	315
29	520	245	350	520	---	320	175	200	270	380	540	510
30	520	250	350	510	---	350	---	195	288	455	670	410
31	520	---	380	460	---	315	---	195	---	435	535	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	11.0	8.0	2.0	---	8.0	15.0	15.0	18.0	26.0	26.0	26.0
2	21.0	10.0	8.0	3.0	---	7.0	17.0	16.0	17.0	26.0	26.0	24.0
3	20.0	13.0	6.0	3.0	---	7.0	15.0	17.0	19.0	27.0	27.0	25.0
4	20.0	10.0	5.0	---	---	8.0	14.0	16.0	17.0	28.0	28.0	25.0
5	19.0	12.0	6.0	2.0	4.0	7.0	---	16.0	---	29.0	27.0	24.0
6	18.0	11.0	7.0	3.0	---	7.0	15.0	15.0	19.0	28.0	27.0	25.0
7	19.0	12.0	6.0	3.0	---	6.0	---	15.0	18.0	27.0	27.0	25.0
8	19.0	10.0	8.0	---	4.0	7.0	---	17.0	20.0	27.0	26.0	25.0
9	20.0	12.0	9.0	2.0	3.0	8.0	14.0	16.0	18.0	27.0	26.0	26.0
10	19.0	11.0	6.0	3.0	3.0	7.0	---	16.0	22.0	29.0	26.0	25.0
11	18.0	9.0	7.0	3.0	8.0	---	15.0	17.0	19.0	28.0	27.0	25.0
12	18.0	11.0	5.0	2.0	9.0	---	14.0	16.0	20.0	29.0	27.0	25.0
13	14.0	10.0	6.0	4.0	1.0	8.0	15.0	16.0	18.0	28.0	26.0	26.0
14	14.0	10.0	5.0	3.0	2.0	7.0	15.0	17.0	20.0	27.0	28.0	24.0
15	15.0	9.0	4.0	4.0	4.0	---	16.0	16.0	19.0	28.0	27.0	24.0
16	17.0	10.0	6.0	2.0	---	8.0	---	15.0	22.0	29.0	26.0	25.0
17	15.0	6.0	5.0	---	---	7.0	---	16.0	18.0	30.0	27.0	23.0
18	15.0	7.0	7.0	---	---	6.0	---	16.0	21.0	27.0	27.0	23.0
19	17.0	6.0	6.0	---	3.0	10.0	---	15.0	23.0	29.0	29.0	22.0
20	15.0	7.0	---	---	4.0	8.0	---	17.0	19.0	28.0	28.0	23.0
21	16.0	7.0	1.0	5.0	5.0	9.0	---	16.0	21.0	30.0	27.0	21.0
22	15.0	5.0	3.0	---	---	7.0	---	16.0	23.0	29.0	27.0	22.0
23	17.0	6.0	4.0	---	7.0	11.0	---	17.0	23.0	27.0	26.0	22.0
24	14.0	7.0	3.0	---	6.0	10.0	---	18.0	24.0	29.0	27.0	21.0
25	15.0	7.0	---	---	7.0	9.0	---	17.0	22.0	30.0	27.0	20.0
26	14.0	6.0	---	6.0	---	11.0	16.0	16.0	23.0	29.0	26.0	20.0
27	10.0	1.0	---	6.0	7.0	10.0	15.0	17.0	24.0	27.0	28.0	21.0
28	14.0	6.0	3.0	5.0	8.0	11.0	---	16.0	25.0	28.0	27.0	19.0
29	13.0	5.0	3.0	6.0	---	13.0	17.0	15.0	26.0	27.0	27.0	19.0
30	10.0	6.0	---	4.0	---	17.0	---	16.0	25.0	28.0	26.0	20.0
31	12.0	---	---	4.0	---	16.0	---	16.0	---	28.0	26.0	---

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	NOV 12,80 1330	MAR 17,81 1315	MAY 20,81 1200	JUL 20,81 1400	SEP 14,81 1230
TOTAL CELLS/ML	990	400	490	20000	5200
DIVERSITY: DIVISION	0.9	1.3	1.2	1.1	1.3
..CLASS	0.9	1.3	1.2	1.1	1.3
..ORDER	1.5	2.2	1.7	1.2	1.9
...FAMILY	1.7	3.1	1.9	1.3	2.5
....GENUS	1.8	3.4	1.9	1.7	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	*	0	72	1
...HYDRODICTYACEAE										
...PEDIASTRUM	--	-	--	-	--	-	--	-	1500#	29
...MICRACTINIACEAE										
....MICRACTINIUM	--	-	--	-	--	-	150	1	--	-
...UOCYSTACEAE										
....ANKISTRODESMUS	39	4	--	-	13	3	150	1	290	6
....SELENASTRUM	210#	21	13	3	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	52	5	52	13	--	-	2200	11	72	1
...TETRASTRUM	--	-	--	-	--	-	--	-	140	3
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	39	4	39	10	51	11	150	1	750	14
..ZYGNEMATALES										
...DESMIDIACEAE										
....COSMARIIUM	13	1	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	590#	60	--	-	280#	58	600	3	1400#	26
....MELOSIRA	--	-	52	13	--	-	--	-	320	6
...STEPHANODISCUS	--	-	77#	19	--	-	--	-	110	2
...PENNALES										
....ACHNANTHACEAE										
....RHOICOSPHENIA	--	-	13	3	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	13	3	--	-	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	13	3	--	-	--	-	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	--	-	--	-	--	-	72	1
...NAVICULACEAE										
....NAVICULA	13	1	39	10	39	8	*	0	36	1
...NITZSCHACEAE										
....NITZSCHIA	39	4	39	10	26	5	680	3	110	2
...SURIARELLACEAE										
....SURIARELLA	--	-	13	3	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	13	3	--	-	*	0	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	300	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	1800	9	--	-
...ANACYSTIS	--	-	--	-	77#	16	14000#	68	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
....EUGLENA	--	-	26	6	--	-	--	-	360	7

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

01636500 SHENANDOAH RIVER AT MILLVILLE, WV
(National stream-quality accounting network station)

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi (0.6 km) downstream from Cattail Run, 1.0 (1.6 km) upstream from Millville, 5.0 mi (8.0 km) upstream from Harpers Ferry, and at mile 5.0 (8.0 km).

DRAINAGE AREA.--3,040 mi² (7,874 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

REVISED RECORDS.--WSP 951: 1936 (M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932 (M), 1935 (M).

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft (89.306 m) National Geodetic Vertical Datum, adjustment of 1912. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi (1.3 km) downstream at datum 0.32 ft (0.098 m) higher.

REMARKS.--Water-discharge records good except those for January, which are poor. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., 0.5 mi (0.8 km) upstream from station. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--66 years (water years 1896-1908, 1929-81), 2,681 ft³/s (75.93 m³/s), 11.98 in/yr (304 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft³/s (6,510 m³/s) Oct. 16, 1942, gage height, 32.4 ft (9.88 m), from floodmarks; minimum, about 59 ft³/s (1.67 m³/s) Oct. 4, 1930, gage height, 0.39 ft (0.119 m); minimum daily, 194 ft³/s (5.49 m³/s) July 24, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft (8.035 m), discharge, 151,000 ft³/s (4,280 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,440 ft³/s (154 m³/s) June 5, gage height, 5.00 ft (1.524 m), no peak above base of 15,000 ft³/s (420 m³/s); minimum, 216 ft³/s (6.12 m³/s) Sept. 1, gage height, 0.88 ft (0.268 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	648	593	964	604	450	2220	695	1080	3460	771	827	464
2	568	573	962	622	637	2020	852	1130	2930	659	747	597
3	586	582	931	664	924	1870	652	1270	2810	755	659	559
4	592	566	795	680	586	1470	877	1290	3320	1280	617	468
5	580	589	808	520	604	1550	819	1240	4790	2170	584	491
6	704	589	759	487	616	1500	755	1100	4950	2250	631	594
7	532	576	724	568	712	1410	755	1050	4380	4280	740	699
8	538	581	738	650	760	1350	652	1000	3770	4170	710	758
9	568	590	709	664	872	1290	673	938	3420	3280	687	878
10	580	597	723	680	574	1220	747	938	2930	2640	687	808
11	574	585	685	634	712	1140	795	1000	3150	2020	843	880
12	556	603	679	604	1160	1050	860	1010	3330	1730	811	764
13	520	591	680	610	2290	1090	1140	1060	2680	1950	795	703
14	520	555	667	628	2950	1000	1400	1270	2780	1430	695	521
15	538	563	660	637	1860	956	1510	1420	3280	1120	597	564
16	514	567	635	648	1460	1000	1510	1320	2890	1070	638	657
17	556	572	583	680	1280	938	1400	1310	2580	1010	617	761
18	538	662	623	680	1140	929	1180	1290	1810	929	533	884
19	532	709	615	712	1160	920	1190	1360	1540	894	474	814
20	544	807	606	674	1410	894	1140	1380	1390	732	521	776
21	574	868	577	671	3400	886	1060	1690	1430	869	515	735
22	584	963	544	695	4870	886	1010	3840	2030	725	462	680
23	561	814	509	653	4890	903	1000	4110	1860	747	451	611
24	558	742	509	620	4190	869	1060	3140	1590	590	411	545
25	638	1010	448	585	3590	763	1040	2490	1290	645	408	480
26	839	1300	390	562	3390	852	1020	2080	1060	638	422	493
27	866	1160	492	509	3060	638	983	1640	965	877	426	498
28	816	1240	574	595	2620	795	956	1480	869	903	394	485
29	876	1150	712	563	---	740	1020	2030	811	1020	394	422
30	779	1030	667	532	---	779	1020	2250	803	835	397	421
31	665	---	616	514	---	787	---	3680	---	795	418	---
TOTAL	19044	22327	20584	19145	52167	34715	29771	51886	74898	43784	18111	19010
MEAN	614	744	664	618	1863	1120	992	1674	2497	1412	584	634
MAX	876	1300	964	712	4890	2220	1510	4110	4950	4280	843	884
MIN	514	555	390	487	450	638	652	938	803	590	394	421
CFSM	.20	.25	.22	.20	.61	.37	.33	.55	.82	.46	.19	.21
IN.	.23	.27	.25	.23	.64	.42	.36	.63	.92	.54	.22	.23
CAL YR 1980	TOTAL	978952	MEAN	2675	MAX	18300	MIN	390	CFSM	.88	IN	11.98
WTR YR 1981	TOTAL	405442	MEAN	1111	MAX	4950	MIN	390	CFSM	.37	IN	4.96

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

WATER TEMPERATURES: October 1980 to September 1981.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Periods of missing record due to instrument malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 778 micromhos Dec. 29, 1980; minimum, 245 micromhos Feb. 26, 27, 1981.

WATER TEMPERATURES: Maximum daily, 30°C July 20, 21, 1981; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 778 micromhos Dec. 29; minimum 245 micromhos Feb. 26, 27.

WATER TEMPERATURES: Maximum daily, 30°C July 20, 21; minimum daily, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
NOV 12...	1045	604	610	8.4	6.5	.20	11.6	1.1	--	45	200
JAN 19...	1215	720	714	8.2	.5	.40	14.3	2.8	--	--	240
MAR 17...	1100	912	318	8.8	5.0	.60	12.8	1.4	<1	66	170
MAY 19...	1200	1360	352	8.2	17.0	1.4	8.2	.87	52	1300	140
JUL 20...	1200	869	368	9.2	29.0	4.1	13.2	.39	K13	550	110
SEP 14...	1030	468	510	--	24.0	5.0	8.3	1.6	K20	950	160

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SC4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
NOV 12...	55	15	42	31	1.3	3.1	110	26	.2	.0	372
JAN 19...	70	16	52	32	1.5	2.8	150	32	.2	.8	234
MAR 17...	48	11	35	31	1.2	2.1	84	13	.1	.4	271
MAY 19...	39	9.6	24	27	.9	2.7	57	12	.1	3.8	248
JUL 20...	30	9.0	33	38	1.4	2.9	75	12	.1	6.1	238
SEP 14...	46	12	35	31	1.2	3.2	64	25	.1	4.2	283

DATE	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)
NOV 12...	351	.51	607	.79	.84	.010	.010	.27	.29	.28	.00
JAN 19...	400	.54	455	2.2	2.2	.170	.160	.57	.42	.74	.16
MAR 17...	271	.37	667	1.2	1.2	.010	.030	.35	.19	.36	.14
MAY 19...	216	.34	911	.45	.43	.060	.060	.71	.38	.77	.33
JUL 20...	215	.32	558	.68	.08	.010	.010	1.3	.30	1.30	.99
SEP 14...	279	.38	358	1.2	1.2	.060	.060	.62	.38	.68	.24

K Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)
NOV 12...	.0	<.1	7	5	2	0	0	0	0	0	0
JAN 19...	.0	<.1	3	1	2	0	0	0	0	0	0
MAR 17...	--	--	--	--	--	--	--	--	--	--	--
MAY 19...	.0	<.1	16	14	2	0	0	0	0	0	0
JUL 20...	.1	.1	14	12	2	0	0	0	0	0	0
SEP 14...	--	--	--	--	--	--	--	--	--	--	--

DATE	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 12...	30	20	9	--	3.1	.4	350	--	--	--
JAN 19...	80	40	40	--	2.3	.3	--	2	3.9	100
MAR 17...	--	--	--	2.6	--	--	3700	6	15	72
MAY 19...	20	--	<4	--	2.9	--	11000	24	88	85
JUL 20...	30	--	<4	--	3.1	3.2	550000	16	38	86
SEP 14...	--	--	--	3.5	--	--	6500	11	14	100

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	585	565	576	544	538	542	479	460	470	680	649	668
2	565	553	557	549	542	546	494	480	487	692	680	688
3	575	557	568	541	529	535	489	480	483	686	667	676
4	576	572	574	553	530	540	519	491	507	676	664	672
5	581	569	576	575	552	564	520	500	507	691	661	680
6	568	560	564	624	577	599	500	489	495	696	687	692
7	576	570	573	643	624	635	505	489	497	722	688	710
8	582	573	580	650	635	642	515	504	509	717	687	699
9	581	574	577	651	632	642	528	513	518	695	679	689
10	575	564	569	632	622	626	563	529	546	690	673	681
11	581	568	576	621	588	604	571	566	570	693	677	684
12	569	552	560	585	562	570	575	567	570	763	576	686
13	562	553	557	588	576	585	573	542	556	773	744	762
14	584	563	576	589	584	585	551	543	547	741	682	715
15	583	580	582	608	590	599	553	542	548	692	677	682
16	583	574	580	617	609	615	558	547	554	710	692	705
17	586	572	576	618	612	616	566	550	555	703	690	697
18	600	586	596	616	599	610	577	568	575	699	688	694
19	599	594	597	598	581	588	579	576	577	699	687	690
20	602	596	599	604	588	593	586	579	584	736	700	719
21	613	602	609	619	586	609	593	585	588	744	735	741
22	620	614	617	583	555	570	615	594	606	733	687	708
23	621	615	619	553	525	534	623	607	616	686	668	677
24	623	616	619	527	514	520	606	590	598	673	665	669
25	624	606	617	524	506	516	591	584	588	671	655	665
26	615	595	606	523	498	509	602	585	590	655	612	634
27	593	572	580	566	525	548	660	604	634	612	579	597
28	579	573	576	568	482	537	749	660	698	593	580	587
29	590	571	579	477	445	455	778	722	762	593	586	589
30	588	554	571	463	453	459	716	634	669	610	594	603
31	554	535	542	---	---	---	645	621	629	609	602	605
MONTH	624	535	582	651	445	570	778	460	569	773	576	676
FEBRUARY			MARCH			APRIL			MAY			
1	614	606	611	266	258	262	416	408	413			
2	610	582	599	258	247	252	421	408	411			
3	581	546	565	257	248	253	423	413	419			
4	551	528	536	252	249	250	413	381	399			
5	596	554	580	250	246	249	397	371	380			
6	625	600	613	262	246	251	409	398	404			
7	634	587	619	271	263	268	414	403	410			
8	584	558	572	274	271	273	407	399	402			
9	556	536	546	275	273	274	411	407	409			
10	549	537	545	290	275	284	409	401	405			
11	543	524	530	289	283	285	420	408	413			
12	544	530	536	288	283	286	420	412	416			
13	578	495	549	294	289	292	413	372	390			
14	494	370	405	298	295	297	---	---	---			
15	368	351	356	311	298	304	---	---	---			
16	367	355	362	313	310	311	---	---	---			
17	392	368	380	319	308	312	---	---	---			
18	391	386	389	326	319	324	---	---	---			
19	392	385	389	325	321	323	---	---	---			
20	384	377	379	327	322	324	---	---	---			
21	380	324	345	331	326	329	---	---	---			
22	330	251	280	330	324	326	---	---	---			
23	259	247	253	358	331	344	---	---	---			
24	268	260	264	363	359	361	---	---	---			
25	259	253	255	359	354	356	---	---	---			
26	253	245	250	362	356	360	---	---	---			
27	256	245	250	364	360	362	---	---	---			
28	265	257	262	368	361	363	---	---	---			
29	---	---	---	372	366	369	---	---	---			
30	---	---	---	408	372	395	---	---	---			
31	---	---	---	407	397	401	---	---	---			
MONTH	634	245	436	408	246	311	423	371	405			

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	396	349	371	531	509	523	648	634	642
2	---	---	---	428	398	416	521	507	514	633	593	615
3	---	---	---	456	428	438	514	488	502	642	594	619
4	---	---	---	458	447	453	487	470	477	657	646	653
5	---	---	---	474	451	459	494	479	487	652	643	648
6	---	---	---	475	373	414	487	477	483	648	643	646
7	---	---	---	369	345	360	513	487	497	647	606	630
8	---	---	---	337	289	300	567	508	534	607	582	591
9	---	---	---	306	270	291	610	571	591	617	582	598
10	---	---	---	295	255	278	610	564	590	617	555	586
11	---	---	---	303	280	295	564	514	538	591	514	561
12	---	---	---	311	277	299	528	497	507	607	515	572
13	---	---	---	327	286	312	570	531	555	585	509	563
14	---	---	---	349	306	334	570	541	558	582	503	553
15	---	---	---	349	307	330	540	507	525	552	474	522
16	---	---	---	366	323	341	507	471	493	546	495	522
17	---	---	---	361	329	349	488	463	478	546	484	526
18	---	---	---	401	357	380	500	491	495	562	492	527
19	315	303	309	414	351	390	504	500	502	568	480	541
20	328	313	322	394	350	377	518	500	506	600	543	572
21	351	317	333	376	348	358	561	522	540	580	528	554
22	355	337	346	390	357	373	599	562	581	543	465	510
23	360	321	348	437	371	403	601	583	596	514	478	495
24	330	312	319	490	423	459	594	583	588	503	452	487
25	335	282	321	522	472	501	613	588	600	519	465	494
26	316	277	296	540	475	513	616	601	611	522	424	494
27	353	318	336	517	482	492	623	600	612	522	465	500
28	365	300	346	552	521	543	614	605	610	524	468	496
29	294	280	285	551	538	545	628	609	621	521	469	501
30	348	297	328	551	540	546	636	627	631	535	471	502
31	---	---	---	554	531	546	643	630	638	---	---	---
MONTH	365	277	324	554	255	402	643	463	548	657	424	557

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.5	18.5	19.0	10.5	9.5	10.0	5.5	5.0	5.0	.5	.0	.0
2	20.0	19.0	19.5	10.0	9.5	9.5	6.5	5.5	6.0	.5	.0	.0
3	19.5	18.5	19.0	9.5	8.5	9.0	6.0	4.5	5.5	.5	.0	.0
4	19.0	17.5	18.0	9.5	9.0	9.5	4.5	4.0	4.0	.0	.0	.0
5	17.5	16.5	17.0	9.5	9.0	9.5	4.0	3.5	3.5	.5	.0	.0
6	17.0	16.0	16.5	9.5	8.5	9.0	4.5	3.5	4.0	.5	.0	.0
7	16.5	15.5	16.0	9.0	8.5	9.0	5.5	4.5	5.0	.0	.0	.0
8	16.5	15.0	16.0	10.0	9.0	9.5	7.0	5.5	6.5	.0	.0	.0
9	17.0	16.0	16.5	11.0	10.0	10.5	8.0	7.5	7.5	.5	.0	.0
10	17.0	16.5	16.5	11.0	10.0	10.5	8.0	7.5	8.0	.5	.0	.0
11	16.0	15.5	16.0	9.5	8.0	9.0	7.5	6.0	6.5	.5	.0	.0
12	15.5	15.0	15.0	8.0	7.0	7.5	6.0	5.5	5.5	.0	.0	.0
13	15.0	13.5	14.0	7.0	6.5	7.0	5.5	5.0	5.5	.5	.0	.0
14	13.5	12.5	13.0	7.5	6.5	7.0	5.5	4.5	5.0	.0	.0	.0
15	13.0	12.5	13.0	8.0	7.5	7.5	4.5	3.5	4.0	.0	.0	.0
16	14.0	12.5	13.5	8.0	7.5	8.0	3.5	3.5	3.5	.5	.0	.0
17	15.5	13.5	14.5	8.0	6.5	7.5	3.5	3.0	3.0	.0	.0	.0
18	16.5	15.5	16.0	6.5	5.5	6.0	3.0	2.5	2.5	.5	.0	.0
19	17.5	16.5	17.0	5.5	5.0	5.0	3.5	2.5	3.0	.5	.0	.0
20	17.0	16.0	16.5	5.0	4.5	5.0	2.5	1.0	2.0	.5	.0	.0
21	16.0	15.0	15.5	5.0	4.5	5.0	1.0	.5	.5	.5	.0	.0
22	15.0	14.5	14.5	5.5	5.0	5.0	.5	.0	.5	.5	.0	.0
23	14.5	13.5	14.0	5.5	5.0	5.0	.5	.0	.5	.5	.0	.5
24	13.5	12.5	13.0	5.5	5.0	5.0	.5	.0	.5	.5	.0	.5
25	13.0	11.5	12.5	5.5	5.0	5.5	.5	.0	.0	1.0	.0	.5
26	11.5	9.5	10.0	5.5	5.0	5.0	.5	.0	.0	.5	.0	.5
27	9.5	9.0	9.0	5.0	4.5	5.0	.5	.0	.0	.5	.0	.0
28	10.0	9.0	9.5	5.0	4.5	5.0	.5	.0	.0	1.0	.0	.5
29	10.5	10.0	10.0	4.5	4.5	4.5	.0	.0	.0	1.0	.5	.5
30	10.5	9.5	10.0	5.0	4.5	4.5	.5	.0	.0	1.0	.5	1.0
31	10.5	9.5	10.0	---	---	---	.5	.0	.0	1.0	.5	.5
MONTH	20.0	9.0	14.5	11.0	4.5	7.0	8.0	.0	3.0	1.0	.0	.0

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.0	.5	.5	8.0	7.5	7.5	15.0	14.5	14.5			
2	.5	.5	.5	7.5	7.0	7.5	15.5	14.0	14.5			
3	.5	.0	.5	7.0	6.5	7.0	16.0	14.5	15.0			
4	.5	.0	.0	7.0	6.0	6.0	16.5	15.5	16.0			
5	.5	.0	.0	6.5	5.5	5.5	17.0	16.5	16.5			
6	.5	.0	.5	5.5	5.0	5.0	16.0	13.5	15.0			
7	.5	.0	.5	5.5	4.5	5.0	14.0	12.5	13.0			
8	.5	.0	.0	5.0	4.5	5.0	15.0	13.0	14.0			
9	.5	.0	.0	5.5	5.0	5.5	15.5	14.5	15.0			
10	.5	.0	.5	5.5	5.5	5.5	16.0	14.5	15.0			
11	1.0	.5	.5	6.0	5.5	6.0	16.0	15.0	15.5			
12	1.5	1.0	1.5	7.0	5.5	6.0	16.5	16.0	16.0			
13	1.0	.0	.5	8.0	6.5	7.5	16.0	14.5	15.0			
14	1.5	.0	.5	8.0	7.0	7.5	---	---	---			
15	2.0	1.0	1.5	7.0	6.5	6.5	---	---	---			
16	4.0	2.0	2.5	7.5	6.0	7.0	---	---	---			
17	5.0	4.0	4.5	6.0	5.0	5.5	---	---	---			
18	6.5	5.0	6.0	5.0	4.5	4.5	---	---	---			
19	8.0	6.5	7.5	4.5	4.0	4.5	---	---	---			
20	8.5	8.0	8.5	4.5	4.0	4.0	---	---	---			
21	8.5	8.0	8.5	4.5	4.0	4.5	---	---	---			
22	8.5	7.5	8.0	5.5	4.0	5.0	---	---	---			
23	9.0	8.0	8.5	7.0	5.5	6.0	---	---	---			
24	8.5	8.0	8.0	8.5	7.0	7.5	---	---	---			
25	8.0	7.5	8.0	8.5	7.5	8.0	---	---	---			
26	7.5	7.0	7.0	9.5	7.5	8.5	---	---	---			
27	7.5	6.5	7.0	10.5	8.5	9.5	---	---	---			
28	7.5	7.0	7.5	11.0	9.5	10.0	---	---	---			
29	---	---	---	12.0	10.5	11.5	---	---	---			
30	---	---	---	13.0	12.0	12.5	---	---	---			
31	---	---	---	15.0	12.5	14.0	---	---	---			
MONTH	9.0	.0	3.5	15.0	4.0	7.0	17.0	12.5	15.0			
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	26.5	25.5	26.0	28.0	26.5	27.0	27.0	25.5	26.0
2	---	---	---	26.0	25.0	25.5	28.0	26.5	27.0	26.0	25.5	26.0
3	---	---	---	26.0	25.0	25.5	27.5	27.0	27.0	25.5	25.0	25.5
4	---	---	---	25.5	25.0	25.0	28.0	26.5	27.0	25.0	24.0	24.5
5	---	---	---	25.0	24.0	24.5	28.0	26.5	27.5	24.0	23.5	23.5
6	---	---	---	26.5	24.0	25.0	28.0	26.5	27.0	24.5	23.5	24.0
7	---	---	---	27.0	25.5	26.0	26.5	25.5	26.0	25.0	24.0	24.5
8	---	---	---	27.0	25.5	26.5	27.5	26.0	26.5	24.5	24.0	24.5
9	---	---	---	28.5	26.0	27.0	28.5	26.5	27.5	24.0	23.0	23.5
10	---	---	---	29.0	27.5	28.5	29.0	27.0	28.0	23.0	22.5	22.5
11	---	---	---	29.0	27.5	28.5	29.0	28.0	28.5	23.5	22.5	23.0
12	---	---	---	29.5	27.5	28.5	29.0	28.0	28.5	24.5	23.0	24.0
13	---	---	---	29.5	28.0	28.5	28.0	27.5	27.5	25.5	24.0	25.0
14	---	---	---	28.5	27.5	28.0	28.0	27.0	27.5	26.5	24.5	25.5
15	---	---	---	28.0	26.5	27.5	28.0	27.0	27.5	25.5	25.0	25.5
16	---	---	---	27.5	26.5	27.0	28.0	27.0	27.5	25.0	23.5	24.0
17	---	---	---	27.5	26.0	26.5	27.5	26.0	26.5	23.0	22.0	22.5
18	---	---	---	28.5	26.5	27.5	26.0	25.0	25.5	22.0	20.5	21.5
19	28.5	26.5	27.5	29.5	27.5	28.5	25.5	24.0	25.0	20.5	19.0	20.0
20	28.0	27.5	28.0	30.0	28.5	29.5	24.5	23.5	24.0	19.0	18.0	18.5
21	28.0	27.0	27.5	30.0	29.0	29.5	24.5	23.5	24.0	19.0	18.0	18.5
22	28.0	27.0	27.5	29.0	28.0	28.5	24.5	23.5	24.0	20.5	18.5	19.5
23	28.0	26.0	27.0	28.5	27.0	28.0	25.0	23.0	24.0	19.5	19.0	19.0
24	27.5	26.0	27.0	27.5	25.5	26.5	25.0	24.0	24.5	19.0	18.0	18.5
25	28.5	27.0	27.5	25.5	25.0	25.0	25.0	24.0	24.5	18.5	17.5	18.0
26	28.0	27.0	27.5	26.5	24.5	25.5	25.0	24.0	24.5	19.0	18.0	18.5
27	27.0	26.0	26.0	27.5	26.0	26.5	26.0	23.5	25.0	20.5	19.0	19.5
28	26.5	25.0	26.0	27.5	27.0	27.0	27.0	24.5	25.5	20.5	19.5	20.0
29	28.0	25.5	26.5	27.5	26.5	27.0	26.5	24.5	25.5	20.0	19.0	19.5
30	27.5	26.5	26.5	27.0	26.0	26.5	26.0	25.5	25.5	19.0	18.5	19.0
31	---	---	---	27.0	26.0	26.5	27.0	25.5	26.0	---	---	---
MONTH	28.5	25.0	27.0	30.0	24.0	27.0	29.0	23.0	26.0	27.0	17.5	22.0

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 12.80 1045	MAR 17.81 1100	MAY 19.81 1200	JUL 20.81 1200	SEP 14.81 1030
TOTAL CELLS/ML	350	3700	11000	550000	6500
DIVERSITY: DIVISION	1.5	1.5	0.7	0.7	1.4
..CLASS	1.5	1.5	0.7	0.7	1.4
..ORDER	1.6	2.0	0.8	0.8	2.0
...FAMILY	1.6	2.0	1.5	1.3	2.5
....GENUS	1.6	2.0	1.6	1.8	3.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)										
..BACILLARIOPHYCEAE										
...ACHNANTHALES										
....ACHNANTHACEAE										
....COCCONEIS	--	-	--	-	--	-	--	-	100	2
..BACILLARIALES										
...NITZSCHIAEAE										
....NITZSCHIA	--	-	300	8	97	1	9400	2	66	1
...EUPODISCALES										
....COSCINODISCACEAE										
....CYCLOTELLA	39	11	--	-	150	1	2800	1	660	10
....STEPHANODISCUS	--	-	1300#	35	--	-	--	-	100	2
..FRAGILARIALES										
...FRAGILARIAEAE										
....FRAGILARIA	--	-	33	1	--	-	--	-	66	1
..NAVICULALES										
...NAVICULACEAE										
....NAVICULA	13	4	100	3	150	1	--	-	230	4
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....DICTYOSPHAERIACEAE										
....DICTYOSPHAERIUM	--	-	--	-	--	-	15000	3	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	870	8	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	190	2	*	0	600	9
....CHODATELLA	--	-	--	-	--	-	--	-	230	4
....KIRCHNERIELLA	--	-	--	-	--	-	19000	3	--	-
...OOCYSTIS	--	-	--	-	190	2	--	-	--	-
....SELENASTRUM	--	-	--	-	150	1	12000	2	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	270	4
....COELASTRUM	--	-	--	-	--	-	26000	5	270	4
....CRUCIGENIA	--	-	--	-	--	-	15000	3	--	-
...SCENEDESMUS	150#	44	--	-	7900#	73	370000#	67	2300#	35
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	500	14	97	1	*	0	500	8
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	33	1	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
....CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	800	12
....ANACYSTIS	140#	41	1400#	39	1100	10	81000	15	270	4
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
....TRACHELOMONAS	--	-	--	-	--	-	--	-	100	2

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

POTOMAC RIVER BASIN

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01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi (0.5 km) downstream from Catoctin Creek (Virginia), 6 mi (9.7 km) upstream from Monocacy River, and at mile 159.5 (256.6 km).

DRAINAGE AREA.--9,651 mi² (24,996 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft (61.152 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft (0.317 m) higher.

REMARKS.--Water-discharge records good except those for January, which are fair. Low flow affected slightly since 1913 by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981, by Bloomington Reservoir (see station 01595800). Low flow affected extensively at times by run-of-the-river hydroelectric plants. Gage-height telemeter at station.

AVERAGE DISCHARGE.--86 years, 9,355 ft³/s (264.9 m³/s), 13.16 in/yr (334 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft³/s (13,600 m³/s) Mar. 19, 1936, gage height, 41.03 ft (12.506 m) from rating curve extended above 300,000 ft³/s (8,500 m³/s) on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum discharge, 530 ft³/s (15.0 m³/s) Sept. 11, 12, 1966, gage height, 0.27 ft (0.082 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft (12.25 m), from floodmarks, discharge, about 460,000 ft³/s (13,000 m³/s) from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,900 ft³/s (1,190 m³/s) Apr. 14, gage height, 9.81 ft (2.990 m), no other peak above base of 35,000 ft³/s (990 m³/s); minimum discharge, 1,080 ft³/s (30.6 m³/s) Aug. 29, gage height, 0.64 ft (0.195 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1550	1870	5040	2300	1800	11600	5910	6510	13700	3600	3020	2400
2	1560	1730	4750	2200	2300	10000	5960	6760	12200	3400	2700	2200
3	1470	1640	4360	1700	3800	9620	5590	7220	11000	3500	2400	1900
4	1540	1680	4140	1500	5000	8590	5430	10100	11100	5550	2280	1800
5	1490	1710	4220	1300	4500	7930	5490	9010	14600	8380	2180	2200
6	1570	1530	4830	1400	4500	7750	5110	7790	17500	8830	2160	2630
7	1500	1570	4500	1800	5000	7160	4770	6860	15900	8440	2300	4330
8	1390	1540	4210	1800	4340	6860	4540	6520	16600	8450	2380	4080
9	1420	1470	3870	1600	4200	6690	4310	5990	16400	7090	2270	3480
10	1450	1520	3800	1600	4200	6480	4200	5410	12800	6410	2100	3000
11	1430	1510	3550	1600	4450	6420	4080	5110	11400	5320	2220	2800
12	1410	1510	3670	1600	4610	6280	4310	5370	14300	4570	2290	2600
13	1360	1510	4060	1500	7900	6230	11200	11700	13900	4350	2190	2500
14	1290	1500	3790	1500	9670	5990	38500	11800	11200	3930	2000	2400
15	1310	1490	3480	1500	8170	5600	40400	9640	13100	3390	1770	2500
16	1300	1560	3400	1600	6790	5560	31300	8320	14400	3010	1750	2400
17	1310	1570	3310	1500	6090	5680	22500	7880	13500	2750	1690	2300
18	1370	1890	3090	1400	5820	5560	16900	8200	9290	2570	1530	2500
19	1340	2090	2960	1500	5410	5420	13700	7640	7360	2380	1380	3770
20	1330	2200	2640	1600	8000	5110	11700	7100	7350	2260	1450	4190
21	1330	2460	2530	1700	19300	4920	10200	8940	7730	2320	1450	3240
22	1410	3040	2320	1800	25300	4730	9240	17600	11000	2220	1410	2760
23	1330	3050	2100	1900	25800	4500	8690	15900	10500	2200	1310	2330
24	1270	3010	1830	1900	28200	4320	8250	12200	8510	2030	1280	2090
25	1730	5700	1600	1800	28600	4040	7810	9800	7220	2040	1230	1820
26	1940	12300	1300	1900	22700	3840	7470	8240	5870	2060	1230	1750
27	2240	11400	1700	2000	17500	3740	7140	6970	5010	2290	1230	1610
28	2770	8290	2300	2000	14100	3640	6640	6080	4650	3040	1180	1630
29	3020	6490	2200	2000	---	3650	6340	5820	4860	3680	1200	1520
30	2820	5570	2100	1700	---	6500	6650	8240	4090	3460	1300	1390
31	2350	---	2200	1600	---	6670	---	14700	---	3270	2300	---
TOTAL	50640	94400	99850	52800	288050	191080	324330	269420	327040	126790	57180	76120
MEAN	1634	3147	3221	1703	10290	6164	10810	8691	10900	4090	1845	2537
MAX	3020	12300	5040	2300	28600	11600	40400	17600	17500	8830	3020	4330
MIN	1270	1470	1300	1300	1800	3640	4080	5110	4090	2030	1180	1390
CFSM	.17	.33	.33	.18	1.07	.64	1.12	.90	1.13	.42	.19	.26
IN.	.20	.36	.38	.20	1.11	.74	1.25	1.04	1.26	.49	.22	.29
CAL YR 1980 TOTAL	3354390			MEAN 9165	MAX 63100	MIN 1270	CFSM .95	IN 12.93				
WTR YR 1981 TOTAL	1957700			MEAN 5364	MAX 40400	MIN 1180	CFSM .56	IN 7.55				

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1960 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 33.5°C Aug. 24, 1964, July 19, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,350 mg/L Apr. 3, 1970; minimum daily mean, 1 mg/L on many days most years.

SEDIMENT LOADS: Maximum daily, 689,000 tons (625,000 tonnes) June 23, 1972; minimum daily, 2.0 tons (1.8 tonnes) on many days during 1964, 1966-69.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 27.0°C July 13, 14, 20, 21; minimum daily, 0.0°C Dec. 20, Jan. 3, 4.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 338 mg/L Apr. 15; minimum daily mean, 1 mg/L Oct. 13, Jan. 9-28.

SEDIMENT LOADS: Maximum daily, 36,900 tons (33,500 tonnes) Apr. 15; minimum daily, 3.7 tons (3.4 tonnes) Oct. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
NOV 24...	113 ⁰	2820	500	7.5	5.0	4.5	5	11.7	170	60	50	11
JAN 28...	133 ⁰	2000	492	8.8	10.0	.6	8	14.7	180	60	54	11
JUN 30...	1215	3970	262	8.1	28.5	24.0	2	7.8	110	37	34	6.3
SEP 18...	133 ⁹	2370	405	8.1	--	20.0	5	--	150	41	44	10

DATE	SODIUM, DIS- SOLVED ⁽¹⁾ (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM 40 DIS- SOLVED (PCI/L AS K40)	ALKA- LINITY LAR (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 24...	28	26	.9	3.8	--	110	71	32	.2	.0	284	262
JAN 28...	31	27	1.0	2.5	1.9	120	79	28	.1	.2	319	278
JUN 30...	7.0	12	.3	2.1	1.6	74	39	11	.1	4.4	180	148
SEP 18...	22	24	.8	2.7	--	110	67	17	.1	4.4	256	233

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 24...	.39	2160	.78	.120	.37	210	190	20	10	5	5
JAN 28...	.43	1720	1.7	.100	.31	180	--	<10	30	20	10
JUN 30...	.24	1930	1.1	.050	.15	420	410	10	50	50	4
SEP 18...	.35	1640	1.1	.110	.34	400	390	10	40	30	10

POTOMAC RIVER BASIN

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01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued
 WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)	DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)
OCT 01-31	30.1	1.2	APR 01-30	37.9	1.6
DEC 01-31	30.7	1.3	MAY 01-31	39.2	1.6
JAN 01-31	30.9	1.2	JUN 01-18	41.2	2.5
FEB 01-28	29.2	1.3	18-30	38.4	2.3
MAR 01-31	33.8	1.4	JUL 01-18	37.7	2.3
			18-31	39.1	2.3

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
 ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10.0	4.0	1.0	2.0	7.0	12.0	16.0	20.0	23.0	24.0	---
2	20.0	10.0	7.0	2.0	1.0	6.0	12.0	14.0	19.0	23.0	24.0	24.0
3	17.0	9.0	5.0	.0	---	5.0	12.0	15.0	19.0	23.0	25.0	23.0
4	17.0	9.0	3.0	.0	---	5.0	---	17.0	20.0	23.0	---	22.0
5	17.0	10.0	3.0	---	---	5.0	16.0	15.0	20.0	24.0	26.0	21.0
6	---	8.0	4.0	---	1.0	4.0	13.0	15.0	20.0	23.0	25.0	22.0
7	14.0	9.0	5.0	---	1.0	4.0	12.0	14.0	20.0	26.0	22.0	22.0
8	---	10.0	5.0	---	1.0	4.0	12.0	---	20.0	---	25.0	22.0
9	16.0	9.0	7.0	---	1.0	5.0	14.0	18.0	21.0	25.0	---	20.0
10	16.0	10.0	6.0	---	2.0	6.0	14.0	17.0	21.0	26.0	25.0	19.0
11	15.0	7.0	4.0	---	3.0	6.0	14.0	17.0	20.0	26.0	26.0	20.0
12	14.0	---	5.0	---	---	5.0	16.0	16.0	22.0	25.0	26.0	21.0
13	12.0	7.0	5.0	---	1.0	8.0	13.0	16.0	22.0	27.0	25.0	22.0
14	10.0	9.0	5.0	---	1.0	6.0	12.0	17.0	24.0	27.0	25.0	23.0
15	12.0	8.0	3.0	---	2.0	7.0	11.0	18.0	23.0	24.0	25.0	24.0
16	12.0	8.0	3.0	---	3.0	6.0	12.0	16.0	25.0	25.0	25.0	21.0
17	14.0	5.0	3.0	---	---	6.0	11.0	18.0	24.0	24.0	23.0	20.0
18	17.0	5.0	3.0	---	6.0	6.0	12.0	16.0	23.0	25.0	21.0	20.0
19	---	4.0	4.0	---	9.0	5.0	13.0	15.0	23.0	26.0	21.0	18.0
20	15.0	4.0	.0	---	6.0	5.0	13.0	15.0	25.0	27.0	21.0	18.0
21	13.0	6.0	2.0	---	5.0	5.0	13.0	15.0	26.0	27.0	21.0	17.0
22	17.0	5.0	2.0	---	5.0	6.0	12.0	16.0	25.0	26.0	---	18.0
23	12.0	5.0	1.0	---	6.0	6.0	14.0	16.0	23.0	25.0	20.0	16.0
24	13.0	5.0	4.0	---	6.0	6.0	14.0	19.0	23.0	23.0	22.0	14.0
25	12.0	6.0	1.0	---	6.0	7.0	12.0	18.0	23.0	23.0	21.0	15.0
26	8.0	4.0	1.0	1.0	5.0	7.0	14.0	20.0	23.0	23.0	22.0	17.0
27	7.0	4.0	---	1.0	5.0	8.0	13.0	20.0	21.0	25.0	22.0	21.0
28	11.0	5.0	---	1.0	6.0	8.0	15.0	21.0	22.0	---	24.0	18.0
29	9.0	4.0	---	1.0	---	8.0	16.0	21.0	22.0	25.0	24.0	16.0
30	9.0	5.0	---	1.0	---	8.0	14.0	23.0	24.0	23.0	24.0	17.0
31	10.0	---	1.0	1.0	---	9.0	---	23.0	---	24.0	24.0	---

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)											
	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)											
OCTOBER													NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15	63	5	25	26	354	2	12	5	24	21	658										
2	16	67	6	28	21	269	2	12	8	50	22	594										
3	12	48	7	31	16	188	1	4.6	15	154	17	442										
4	11	46	7	32	14	156	2	8.1	22	297	17	394										
5	8	32	7	32	12	137	5	18	22	267	10	214										
6	9	38	6	25	12	156	5	19	20	243	10	209										
7	10	40	6	25	10	121	3	15	19	256	10	193										
8	10	38	6	25	10	114	2	9.7	16	187	8	148										
9	10	38	8	32	11	115	1	4.3	10	113	7	126										
10	7	27	7	29	12	123	1	4.3	9	102	9	157										
11	6	23	6	24	8	77	1	4.3	11	132	8	139										
12	5	19	6	24	8	79	1	4.3	12	149	7	119										
13	1	3.7	5	20	8	88	1	4.1	15	320	9	151										
14	4	14	5	20	6	61	1	4.1	34	888	12	194										
15	6	21	3	12	3	28	1	4.1	32	716	9	136										
16	5	18	2	8.4	2	18	1	4.3	20	367	8	120										
17	4	14	3	13	2	18	1	4.1	17	280	12	184										
18	4	15	3	15	3	25	1	3.8	23	361	8	120										
19	2	7.2	3	17	3	24	1	4.1	21	307	8	117										
20	3	11	3	18	3	21	1	4.3	28	605	6	83										
21	7	25	3	20	4	27	1	4.6	90	5090	7	93										
22	3	11	4	33	4	25	1	4.9	192	13100	6	77										
23	5	18	6	49	2	12	1	5.1	103	7170	5	61										
24	3	10	10	81	3	15	1	5.1	95	7230	5	58										
25	8	37	16	246	5	22	1	4.9	128	9890	5	55										
26	6	32	58	1940	15	53	1	5.1	84	5150	5	52										
27	6	36	68	2110	10	46	1	5.4	49	2320	5	50										
28	11	82	41	935	7	43	1	5.4	18	685	4	39										
29	13	106	28	491	5	30	3	16	---	---	6	59										
30	12	91	28	421	5	28	12	55	---	---	17	298										
31	8	51	---	---	4	24	16	69	---	---	16	288										
TOTAL	---	1081.9	---	6781.4	---	2497	---	329.0	---	56433	---	5628										
APRIL													MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10	160	12	211	38	1410	15	146	25	204	15	97										
2	13	209	15	274	36	1190	15	138	23	168	17	101										
3	12	181	16	312	31	921	17	161	23	149	17	87										
4	15	220	24	654	30	899	32	480	21	129	17	83										
5	16	237	13	316	40	1580	46	1040	20	118	29	172										
6	15	207	11	231	53	2500	37	882	20	117	34	241										
7	10	129	12	222	40	1720	38	866	19	118	50	585										
8	11	135	12	211	46	2060	38	867	18	116	34	375										
9	13	151	11	178	53	2350	29	555	17	104	27	254										
10	12	136	13	190	39	1350	25	433	17	96	23	186										
11	10	110	16	221	35	1080	28	402	18	108	24	181										
12	11	128	12	174	42	1620	26	321	19	117	24	168										
13	60	2260	47	1480	44	1650	19	223	24	142	19	128										
14	294	31100	43	1370	39	1180	18	191	28	151	17	110										
15	338	36900	26	677	53	1870	16	146	23	110	13	88										
16	195	16500	24	539	61	2370	15	122	19	90	12	78										
17	112	6800	21	447	59	2150	15	113	17	78	15	93										
18	55	2510	18	399	37	928	14	99	18	74	16	108										
19	38	1410	19	392	32	636	15	98	16	60	28	285										
20	32	1010	18	345	30	595	15	94	15	59	22	249										
21	23	633	18	434	34	710	15	96	17	67	17	149										
22	21	524	46	2190	50	1490	16	98	17	65	16	119										
23	19	446	39	1670	50	1420	17	103	16	57	10	63										
24	19	423	33	1090	34	781	15	84	14	48	9	51										
25	15	316	24	635	34	663	13	73	16	53	10	49										
26	15	303	19	423	26	412	14	79	16	53	6	28										
27	13	251	16	301	23	311	16	101	15	50	3	13										
28	11	197	15	246	20	251	24	200	14	45	3	13										
29	11	188	18	283	21	276	37	374	12	39	2	8.2										
30	12	215	30	667	18	199	35	333	12	42	2	7.5										
31	---	---	41	1630	---	---	---	---	13	81	---	---										
TOTAL	---	103989	---	18412	---	36572	---	8918	---	2908	---	4169.7										
TOTAL LOAD FOR YEAR: 247719.0													TONS.									

MONONGAHELA RIVER BASIN

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03050400 TYGART VALLEY RIVER AT ELKINS, WV

LOCATION.--Lat 38°55'00", long 79°50'43", Randolph County, Hydrologic Unit 05020001, at city water plant, at Elkins, 2.5 mi (4.0 km) upstream from gaging station.

DRAINAGE AREA.--268 mi² (694 km²) upstream from water plant; 272 mi² (704 km²) upstream from gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1947 to current year.

REMARKS.--No appreciable inflow between water plant and gaging station except during periods of heavy local rains. During flood periods part of the flow is diverted around the water plant in a flood by-pass channel.

COOPERATION.--Temperature records were furnished by City of Elkins pump station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 33.0°C July 22, 1952; minimum daily, 0.0°C on many days during winter months most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 24.5°C July 13, 18, 19, 21, 22, 27, and 28; minimum daily, 0.0°C Dec. 25.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.5	8.5	5.5	3.5	2.0	6.5	6.5	14.5	18.0	20.0	23.5	22.0
2	15.5	8.0	5.5	.5	2.0	6.0	8.0	11.5	16.5	21.0	23.5	22.0
3	15.5	9.0	4.5	.5	2.0	4.5	8.0	12.0	16.5	20.5	23.0	23.5
4	14.5	8.0	3.5	1.0	1.5	4.5	9.0	14.5	17.0	20.0	23.5	23.5
5	14.5	9.0	4.5	1.5	1.0	4.0	8.0	15.5	18.0	20.0	23.5	22.0
6	13.5	8.0	5.5	1.5	.5	3.5	11.0	15.5	16.5	20.5	23.5	22.0
7	13.5	9.5	6.5	1.5	.5	3.5	9.0	15.5	19.0	20.5	23.5	21.0
8	12.0	9.5	6.5	1.0	1.0	3.5	10.0	14.5	19.0	21.0	23.5	21.0
9	14.0	9.5	10.0	.5	2.0	3.5	8.0	15.0	19.0	23.5	23.0	20.0
10	13.5	9.0	6.5	.5	2.0	3.5	12.0	16.5	18.5	23.5	23.5	19.5
11	13.5	9.0	7.0	1.0	2.0	3.5	13.5	18.0	18.5	23.5	23.5	18.0
12	13.5	8.0	4.5	1.0	2.0	3.5	14.5	15.5	20.0	23.5	22.0	18.0
13	12.0	5.5	4.5	1.0	.5	5.0	14.5	13.5	19.0	24.5	23.5	18.0
14	12.0	5.5	5.5	1.0	.5	5.0	15.5	15.5	19.0	24.0	23.5	18.0
15	13.5	6.0	4.0	1.0	2.0	5.5	14.5	14.5	20.0	24.0	23.5	20.0
16	13.5	6.5	3.5	.5	2.0	5.5	13.5	14.0	20.0	24.0	23.5	20.0
17	12.0	6.5	3.5	.5	3.5	4.5	13.5	14.5	21.0	24.0	22.0	19.0
18	12.0	4.5	3.5	2.0	4.5	3.5	12.0	14.5	22.0	24.5	22.0	16.0
19	13.5	5.5	2.0	2.0	4.5	3.0	12.0	13.5	21.5	24.5	21.5	14.5
20	13.0	4.5	1.0	2.0	6.0	2.0	13.5	14.5	23.0	24.0	21.0	14.5
21	13.5	3.5	1.5	2.0	6.0	1.5	11.0	14.5	22.0	24.5	21.0	14.5
22	13.0	3.0	1.0	2.0	6.0	1.0	11.0	14.0	21.0	24.5	21.0	15.5
23	12.0	5.5	1.5	.5	6.5	4.5	11.0	15.0	20.5	23.5	21.0	15.5
24	13.0	4.5	1.0	.5	6.5	5.5	11.0	16.5	20.5	23.5	21.0	15.5
25	11.0	5.5	.0	2.0	6.0	5.5	9.5	18.0	21.5	23.5	21.0	15.5
26	10.0	4.5	.5	2.0	5.5	5.5	10.0	19.0	21.0	23.5	21.0	15.5
27	9.0	5.5	.5	2.0	6.0	6.5	10.0	19.0	21.0	24.5	22.0	16.0
28	9.0	5.5	1.0	2.0	6.0	7.0	15.5	19.0	19.5	24.5	22.0	15.5
29	9.0	4.5	2.0	2.0	---	6.5	15.5	18.0	21.0	23.5	22.0	15.5
30	9.0	4.5	1.0	1.0	---	8.0	15.5	18.0	21.0	23.5	22.0	15.5
31	9.0	---	3.0	.5	---	8.0	---	18.0	---	23.5	22.0	---
MEAN WTR YR 1981	12.5	6.5	3.5	1.5	3.0	4.5	11.5	15.5	19.5	23.0	22.5	18.0
		MEAN	12.0		MAX	24.5	MIN	.0				

MONONGAHELA RIVER BASIN

03050500 TYGART VALLEY RIVER NEAR ELKINS, WV

LOCATION.--Lat 38°55'30", long 79°52'45", Randolph County, Hydrologic Unit 05020001, on left bank 1.4 mi (2.3 km) upstream from Leading Creek, 1.5 mi (2.4 km) west of Elkins, and at mile 78.3 (126.0 km).

DRAINAGE AREA.--272 mi² (704 km²).

PERIOD OF RECORD.--October 1944 to current year. Prior to October 1960, published as Tygart River near Elkins.

GAGE.--Water-stage recorder. Datum of gage is 1,893.95 ft (577.276 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 16, 1944, nonrecording gage and Nov. 16, 1944, to Sept. 30, 1951, water-stage recorder at site 200 ft (61 m) upstream at same datum.

REMARKS.--Records good except those for January and February, which are poor. Slight regulation at times by flood-diversion dam upstream from station.

AVERAGE DISCHARGE.--37 years, 537 ft³/s (15.21 m³/s), 26.81 in/yr (681 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,100 ft³/s (371 m³/s) Dec. 31, 1969, gage height, 15.65 ft (4.770 m); maximum gage height, 15.84 ft (4.828 m) Jan. 27, 1978; minimum daily discharge, 0.1 ft³/s (0.003 m³/s) Sept. 20-29, 1959; minimum gage height, 1.01 ft (0.308 m) Sept. 26-28, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,850 ft³/s (194 m³/s) June 7, gage height, 13.04 ft (3.975 m), no other peak above base of 5,000 ft³/s (140 m³/s); minimum, 1.9 ft³/s (0.054 m³/s) Nov. 3, gage height, 1.10 ft (0.335 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	115	362	227	247	1360	732	632	1010	784	103	22
2	50	84	565	212	867	1170	708	1380	813	621	81	82
3	48	43	1380	179	1120	854	569	867	712	389	62	148
4	47	59	980	160	587	595	461	587	1180	271	78	728
5	44	54	613	150	423	664	610	417	3230	329	103	595
6	36	64	494	139	357	1160	1140	332	3630	1100	120	212
7	28	60	471	147	300	957	849	332	5960	756	220	132
8	39	57	501	133	250	684	625	299	1720	386	229	354
9	36	59	522	125	231	525	497	252	863	256	159	536
10	33	57	1240	119	201	401	644	214	2790	199	118	220
11	25	93	1080	115	1140	335	629	439	3280	205	90	142
12	22	85	712	110	3390	297	529	1560	1410	153	87	105
13	21	72	487	105	2000	243	491	1060	724	113	76	93
14	45	65	348	106	900	273	497	684	676	102	68	74
15	12	57	266	111	680	271	903	935	429	85	59	118
16	16	51	225	109	540	305	768	1140	310	75	57	836
17	15	90	193	105	464	332	800	804	229	56	60	468
18	39	1640	155	100	818	318	2130	632	189	47	62	245
19	22	881	139	91	1040	299	1800	2190	165	55	56	165
20	13	362	118	88	1440	266	1180	3780	656	78	50	127
21	7.2	276	94	88	4210	252	1040	2150	668	62	42	108
22	5.1	193	74	94	2490	227	780	989	448	81	35	82
23	4.1	148	62	115	1770	273	583	591	404	72	27	65
24	12	1500	103	153	2720	621	543	392	313	75	22	61
25	47	2680	214	153	1490	700	591	278	302	79	18	56
26	146	1170	159	259	903	813	569	212	629	91	16	50
27	130	728	117	796	629	2180	474	177	371	91	13	44
28	105	591	130	800	540	3420	380	205	236	106	11	37
29	167	491	135	569	---	1540	337	1340	173	155	10	31
30	220	386	191	346	---	1220	380	948	283	167	9.3	29
31	146	---	220	229	---	1080	---	1210	---	130	7.9	---
TOTAL	1623.4	12211	12350	6233	31747	23635	22239	27028	33803	7169	2149.2	5965
MEAN	52.4	407	398	201	1134	762	741	872	1127	231	69.3	199
MAX	220	2680	1380	800	4210	3420	2130	3780	5960	1100	229	836
MIN	4.1	43	62	88	201	227	337	177	165	47	7.9	22
CFSM	.19	1.50	1.46	.74	4.17	2.80	2.72	3.21	4.14	.85	.26	.73
IN.	.22	1.67	1.69	.85	4.34	3.23	3.04	3.70	4.62	.98	.29	.82
CAL YR 1980	TOTAL	195205.4	MEAN 533	MAX 4430	MIN 4.1	CFSM 1.96	IN 26.70					
WTR YR 1981	TOTAL	186152.6	MEAN 510	MAX 5960	MIN 4.1	CFSM 1.88	IN 25.46					

MONONGAHELA RIVER BASIN

99

03051000 TYGART VALLEY RIVER AT BELINGTON, WV

LOCATION.--Lat 39°01'45", long 79°56'10", Barbour County, Hydrologic Unit 05020001, on left bank opposite mouth of Mill Creek, 0.2 mi (0.3 km) downstream from highway bridge at Belington, and mile 61.5 (99.0 km).

DRAINAGE AREA.--408 mi² (1,057 km²), excluding that of Mill Creek.

PERIOD OF RECORD.--June 1907 to current year. Prior to October 1960, published as Tygart River at Belington.

REVISED RECORDS.--WSP 823: Drainage area. WSP 953: 1933(M), 1941(M). WSP 1335: 1912, 1914-15, 1916(M), 1921-22(M), 1925(M), 1928, 1933. WSP 1385: 1909(M), 1913-15(M), 1917-18, 1924(M), 1928(M), 1932, 1934, 1936, 1938-39, 1948-49.

GAGE.--Water-stage recorder. Datum of gage is 1,679.49 ft (511.909 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Apr. 25, 1939, nonrecording gage at site 0.2 mi (0.3 km) upstream at same datum.

REMARKS.--Records good except those for Dec. 20 to Jan. 22, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--74 years, 811 ft³/s (22.97 m³/s), 26.99 in/yr (686 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft³/s (521 m³/s) July 25, 1912, gage height, 20.3 ft (6.19 m) from floodmarks, site then in use; minimum, 0.1 ft³/s (0.003 m³/s) Sept. 13, 1930, gage height, 1.56 ft (0.475 m), site then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888, reached a stage of 21.7 ft (6.61 m), former site, from floodmarks, discharge, 21,200 ft³/s (600 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,200 ft³/s (180 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	1500	8020 277	12.30 3.749	June 6	2100	*9670 274	13.55 4.130

Minimum discharge, 14 ft³/s (0.40 m³/s) Aug. 31, gage height, 2.12 ft (0.646 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	245	758	415	583	2570	1160	1380	1830	1580	182	17
2	66	195	1120	410	1540	2160	1180	2880	1390	998	144	163
3	73	136	2180	340	2170	1530	1010	1720	1150	691	120	241
4	74	100	1780	280	1200	1120	821	1130	1570	430	91	801
5	72	116	1160	255	832	1230	784	808	4440	465	120	1020
6	65	118	946	230	698	1990	1420	643	6790	1350	151	435
7	55	110	929	240	607	1700	1220	609	8830	1150	256	202
8	46	106	1100	220	517	1240	939	542	3210	669	425	450
9	54	107	1160	210	418	974	769	460	1460	455	274	1290
10	51	162	2330	195	419	763	879	403	2940	350	194	480
11	52	155	2040	185	1420	620	901	551	4680	345	155	260
12	44	175	1340	175	3690	559	962	2030	2170	301	148	186
13	43	142	947	168	2710	485	831	1790	1150	223	137	133
14	41	123	698	170	1380	440	783	1180	1150	202	107	120
15	58	115	544	178	1030	465	1110	1840	1380	178	94	148
16	34	104	467	175	835	521	1150	2270	664	144	94	1310
17	28	173	408	170	843	631	1130	1510	440	127	102	968
18	33	3020	339	164	1320	598	3100	1140	345	93	94	475
19	49	1990	309	151	1630	570	2860	2950	325	83	78	310
20	42	877	218	147	2210	495	1860	5780	992	130	70	237
21	35	561	185	153	7180	475	1550	3450	1350	144	65	186
22	30	446	175	265	4420	435	1220	1710	1090	167	55	151
23	23	339	195	526	2740	490	994	1050	911	137	48	110
24	20	2580	230	595	3960	1080	1410	709	603	123	42	96
25	42	5340	283	588	2470	1180	1550	516	425	174	33	88
26	402	2520	275	736	1570	1230	1290	398	1050	137	29	78
27	304	1510	278	1870	1120	2900	980	335	691	163	28	70
28	236	1240	290	1730	998	4860	768	334	395	159	26	63
29	309	1010	300	1270	---	2470	663	1300	296	365	23	53
30	453	806	328	787	---	1730	751	1380	480	325	22	52
31	327	---	365	626	---	1570	---	2200	---	223	16	---
TOTAL	3231	24621	23677	13624	50510	39081	36045	44998	54197	12081	3423	10193
MEAN	104	821	764	439	1804	1261	1202	1452	1807	390	110	340
MAX	453	5340	2330	1870	7180	4860	3100	5780	8830	1580	425	1310
MIN	20	100	175	147	418	435	663	334	296	83	16	17
CFSM	.26	2.01	1.87	1.08	4.42	3.09	2.95	3.56	4.43	.96	.27	.83
IN.	.29	2.24	2.16	1.24	4.61	3.56	3.29	4.10	4.94	1.10	.31	.93

CAL YR 1980	TOTAL	332591	MEAN 909	MAX 7500	MIN 20	CFSM 2.23	IN 30.32
WTR YR 1981	TOTAL	315681	MEAN 865	MAX 8830	MIN 16	CFSM 2.12	IN 28.78

MONONGAHELA RIVER BASIN

03052500 SAND RUN NEAR BUCKHANNOON, WV

LOCATION.--Lat 38°57'50", long 80°09'10", Upshur County, Hydrologic Unit 05020001, on right bank 300 ft (91 m) downstream from Left Fork, 4.5 mi (7.2 km) southeast of Buckhannon, and at mile 6.0 (9.7 km).

DRAINAGE AREA.--14.5 mi² (37.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1725: 1955(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,530 ft (466 m), from topographic map.

REMARKS.--Water-discharge records good except those for October, and those for Dec. 15 to Jan. 26, which are poor.

AVERAGE DISCHARGE.--35 years, 26.8 ft³/s (0.759 m³/s), 25.10 in/yr (638 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) June 25, 1950, from rating curve extended above 600 ft³/s (17 m³/s); maximum gage height, 6.29 ft (1.917 m) Mar. 19, 1963; no flow for several days in 1951-56, 1964-66.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	0030	488 13.8	3.91 1.192	June 6	1200	482 13.7	3.89 1.186
May 30	2345	*508 14.4	3.99 1.216				

Minimum discharge, 0.38 ft³/s (0.011 m³/s) Aug. 31, Sept. 1; gage height, 0.34 ft (0.104 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	6.6	40	19	18	119	28	104	72	18	6.0	1.1
2	1.6	5.0	51	18	75	69	35	109	57	11	4.4	16
3	2.2	4.3	60	17	55	43	29	58	43	7.6	3.8	23
4	2.0	4.5	40	14	40	29	23	35	81	6.1	3.4	27
5	1.8	4.8	30	11	32	50	27	24	121	21	3.0	10
6	1.7	3.6	27	9.8	27	64	23	23	228	18	3.2	4.5
7	1.6	3.2	38	11	27	49	21	21	114	12	4.0	2.7
8	1.5	3.0	50	12	27	35	19	16	55	7.7	6.0	38
9	1.5	3.6	59	11	29	27	18	15	33	7.0	12	19
10	1.6	4.5	82	10	31	21	22	11	66	7.2	5.8	7.7
11	1.5	3.0	52	8.9	88	18	21	21	48	5.7	4.7	4.3
12	1.4	2.5	34	8.0	67	16	18	35	29	3.5	4.5	3.0
13	1.3	2.3	23	7.2	51	13	18	35	20	3.2	4.9	2.2
14	1.2	2.3	17	7.5	37	11	16	27	67	3.3	3.7	2.1
15	1.1	2.3	14	7.5	23	9.1	15	117	35	2.3	3.3	45
16	1.0	3.0	12	7.4	21	16	11	80	20	2.2	3.2	71
17	.97	34	9.9	7.5	23	16	34	51	15	1.8	3.2	23
18	.93	128	7.7	6.9	27	16	66	41	11	1.8	3.4	11
19	.98	42	7.2	6.6	27	16	50	114	7.7	1.4	2.7	9.8
20	1.0	23	6.9	6.4	93	16	40	119	13	1.4	2.3	7.0
21	1.1	18	6.6	6.8	214	16	27	64	12	13	1.9	4.9
22	1.0	14	6.8	8.5	88	17	21	36	17	13	1.7	3.6
23	.92	12	7.0	17	103	22	36	23	11	3.8	1.4	3.1
24	.86	228	8.2	18	88	27	88	15	7.4	3.0	1.2	2.6
25	23	166	9.6	18	62	27	72	11	17	3.5	1.0	2.2
26	19	65	10	16	41	21	51	9.2	19	2.5	.88	2.2
27	9.1	55	11	87	29	68	34	8.4	10	2.2	.76	1.8
28	9.1	52	11	56	55	64	24	35	7.3	3.0	.63	1.8
29	14	40	12	33	---	41	25	40	5.7	5.6	.54	1.8
30	11	32	14	20	---	31	27	67	20	13	.45	1.8
31	8.1	---	16	22	---	23	---	154	---	8.8	.38	---
TOTAL	125.56	967.5	772.9	509.0	1498	1010.1	939	1518.6	1262.1	213.6	98.34	353.2
MEAN	4.05	32.3	24.9	16.4	53.5	32.6	31.3	49.0	42.1	6.89	3.17	11.8
MAX	23	228	82	87	214	119	88	154	228	21	12	71
MIN	.86	2.3	6.6	6.4	18	9.1	11	8.4	5.7	1.4	.38	1.1
CFSM	.28	2.23	1.72	1.13	3.69	2.25	2.16	3.38	2.90	.48	.22	.81
IN.	.32	2.48	1.98	1.31	3.84	2.59	2.41	3.90	3.24	.55	.25	.91
CAL YR 1980	TOTAL	11084.76	MEAN	30.3	MAX	482	MIN	.86	CFSM	2.09	IN	28.44
WTR YR 1981	TOTAL	9267.90	MEAN	25.4	MAX	228	MIN	.38	CFSM	1.75	IN	23.78

MONONGAHELA RIVER BASIN

03052500 SAND RUN NEAR BUCKHANNON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to July 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY FIELD (MG/L AS CAC03)
MAR 19...	1200	18	--	--	3.0	--	--	--	--	--	--
JUL 22...	1230	11	350	7.2	22.0	130	28	14	10	.4	13

DATE	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECCV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR 19...	--	--	--	--	--	--	--	--	--	--	--
JUL 22...	130	1900	246	.33	7.3	1300	1300	40	1900	0	2100

MONONGAHELA RIVER BASIN

03053500 BUCKHANNON RIVER AT HALL, WV

LOCATION.--Lat 39°03'05", Long 80°06'50", Barbour County, Hydrologic Unit 05020001, on right bank 0.2 mi (0.3 km) upstream from highway bridge at Hall, 1.0 mi (1.6 km) upstream from Pecks Run, and at mile 7.5 (12.1 km).

DRAINAGE AREA.--277 mi² (717 km²).

PERIOD OF RECORD.--June 1907 to May 1909 (gage heights only), April 1915 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 783: 1918(M).

GAGE.--Water-stage recorder. Datum of gage is 1,369.15 ft (417.317 m) Baltimore & Ohio RR datum. June 1907 to May 25, 1909, nonrecording gage at site 0.2 mi (0.3 km) downstream at datum 4.12 ft (1.256 m) lower. Apr. 15, 1915, to June 8, 1939, nonrecording gage at site 500 ft (152 m) downstream at present datum.

REMARKS.--Records good except those for October, November, December, and January, which are poor. Some regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--66 years, 596 ft³/s (16.88 m³/s), 29.22 in/yr (742 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s (368 m³/s) Mar. 7, 1967, gage height, 15.07 ft (4.593 m), from rating curve extended above 9,100 ft³/s (260 m³/s); minimum, 0.2 ft³/s (0.006 m³/s) Oct. 23, 27, 1930, gage height, 1.30 ft (0.396 m), site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	1715	6640 188	10.56 3.219	June 6	2345	*9260 262	12.43 3.789
June 5	1000	5200 147	9.53 2.905				

Minimum discharge, 11 ft³/s (0.31 m³/s) Aug. 31, Sept. 1, minimum gage height, 3.71 ft (1.131 m) Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	180	610	370	400	2340	708	1540	2240	234	188	14
2	41	145	710	370	440	2030	956	2440	1700	250	132	26
3	36	119	1400	330	2300	1270	876	1390	1300	212	103	160
4	36	105	1160	293	1400	904	710	926	1660	157	90	557
5	38	107	857	245	751	941	623	683	4530	163	99	504
6	39	107	698	190	671	1470	766	561	6000	521	97	278
7	33	98	656	196	564	1300	686	573	7330	478	167	163
8	30	106	860	223	480	965	599	481	2460	328	380	163
9	31	124	910	230	469	740	524	391	1150	242	223	803
10	32	135	1610	195	443	587	612	335	1670	194	154	504
11	31	126	1410	175	934	485	534	351	2520	175	113	278
12	28	148	999	151	1630	406	475	672	1380	171	135	184
13	27	125	747	134	1280	350	432	833	860	129	129	132
14	25	114	590	145	1060	317	378	756	960	112	111	103
15	27	108	450	150	853	295	430	1500	824	101	84	144
16	21	120	340	145	716	312	457	1940	482	90	84	1580
17	20	300	280	138	673	449	548	1330	350	75	88	1230
18	20	2120	240	131	888	428	1800	977	294	62	92	640
19	21	1200	213	128	1040	424	1920	1940	209	56	67	421
20	23	500	190	123	1660	395	1300	3440	238	47	52	337
21	21	350	130	128	5760	372	948	2290	504	46	43	250
22	20	290	124	190	4250	376	711	1260	581	119	36	191
23	19	240	130	300	2350	398	658	811	672	164	30	148
24	19	700	155	330	2750	470	1240	566	443	118	27	126
25	49	4050	178	343	1820	537	1190	413	319	88	23	108
26	322	2250	194	331	1210	560	999	315	482	106	20	93
27	287	1200	204	1500	879	997	796	386	432	87	17	82
28	159	940	212	1730	802	2240	630	457	278	148	15	73
29	185	770	224	1000	---	1450	525	1370	202	386	14	63
30	312	660	250	765	---	1080	633	1150	157	465	13	57
31	232	---	350	430	---	911	---	3070	---	286	12	---
TOTAL	2227	17537	17081	11109	38473	25799	23664	35147	42227	5810	2838	9412
MEAN	71.8	585	551	358	1374	832	789	1134	1408	187	91.5	314
MAX	322	4050	1610	1730	5760	2340	1920	3440	7330	521	380	1580
MIN	19	98	124	123	400	295	378	315	157	46	12	14
CFSM	.26	2.11	1.99	1.29	4.96	3.00	2.85	4.09	5.08	.68	.33	1.13
IN.	.30	2.36	2.29	1.49	5.17	3.46	3.18	4.72	5.67	.78	.38	1.26

CAL YR 1980	TOTAL	221773	MEAN 606	MAX 5310	MIN 19	CFSM 2.19	IN 29.78
WTR YR 1981	TOTAL	231324	MEAN 634	MAX 7330	MIN 12	CFSM 2.29	IN 31.07

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV

LOCATION.--Lat 39°09'00", long 80°02'25", Barbour County, Hydrologic Unit 05020001, on right bank at Philippi, 0.2 mi (0.3 km) downstream from Anglins Run, 5.0 mi (8.0 km) downstream from Buckhannon River, and at mile 44.9 (72.2 km).

DRAINAGE AREA.--916 mi² (2,372 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1940 to current year. Prior to October 1960, published as Tygart River at Philippi.

GAGE.--Water-stage recorder. Datum of gage is 1,280.55 ft (390.312 m) National Geodetic Vertical Datum of 1929. Prior to May 23, 1940, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for December and February, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--41 years, 1,866 ft³/s (52.85 m³/s), 27.66 in/yr (703 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,000 ft³/s (1,220 m³/s) Mar. 7, 1967, gage height, 25.93 ft (7.903 m); minimum, 4.9 ft³/s (0.14 m³/s) Oct. 10-12, 21, 1953; minimum gage height, 0.92 ft (0.280 m) Sept. 9, 10, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 25, 1912, reached a stage of 27.3 ft (8.32 m), read on National Weather Service gage 0.2 mi (0.3 km) downstream, or about 26 ft (8 m), present site and datum, discharge, about 37,000 ft³/s (1,000 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 13,000 ft³/s (370 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	1500	17400 493	15.75 4.801	June 6	2100	*24600 697	19.16 5.840

Minimum discharge, 41 ft³/s (1.16 m³/s) Aug. 31, gage height, 1.42 ft (0.433 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	183	594	2040	1240	1250	6080	2520	3380	5690	2250	474	67
2	150	477	2490	1210	3390	5740	2800	6850	4210	1690	353	87
3	128	387	4220	1070	6960	3880	2600	4420	3420	1290	282	412
4	135	314	4050	870	6330	2770	2160	2930	4110	865	242	1640
5	140	270	2840	642	3530	2450	1910	2160	10600	736	229	2150
6	142	293	2310	624	3000	4390	2530	1760	17100	1980	298	1170
7	140	293	2200	764	2650	4050	2460	1670	18900	2110	392	574
8	119	260	2620	749	2350	3020	2070	1440	8210	1400	1000	451
9	106	267	2810	687	2210	2350	1780	1210	3730	938	706	2830
10	108	282	4870	620	2020	1890	1910	1030	5640	722	457	1620
11	102	348	4690	506	4750	1580	2000	1070	9330	646	344	825
12	95	388	3280	466	10700	1350	1960	2800	4960	589	327	540
13	83	346	2000	456	6600	1170	1790	3300	2890	454	353	392
14	79	306	1550	486	3500	1060	1610	2570	2970	388	298	304
15	74	288	1250	488	2300	1030	1760	3970	2990	342	236	345
16	95	284	1090	469	1860	1090	2090	5560	1710	296	229	2990
17	70	365	920	434	1900	1420	1980	3930	1210	255	228	3200
18	65	4850	880	403	2280	1390	5530	2890	933	219	238	1720
19	72	4710	780	395	3480	1360	6310	5650	709	181	200	1090
20	83	2380	620	400	4760	1240	4300	12000	1770	176	164	829
21	75	1550	418	429	16300	1180	3320	8470	2530	241	142	625
22	72	1210	396	657	11700	1130	2610	4880	2440	289	124	472
23	68	925	428	1050	6760	1170	2210	3360	2270	366	107	374
24	65	3960	515	1140	8300	1790	3310	2590	1580	328	93	304
25	91	11300	610	1080	5860	2170	3650	2090	1090	266	80	270
26	646	6600	651	1340	3780	2260	3210	1720	1810	318	67	238
27	858	3970	691	3910	2680	4440	2550	1350	1600	287	58	211
28	534	3400	705	4950	2320	8920	2050	975	987	347	55	188
29	592	2770	776	3500	---	5420	1730	2470	708	768	50	166
30	1010	2230	933	2030	---	3690	1940	3200	617	1040	46	149
31	803	---	1130	1350	---	3240	---	6150	---	698	47	---
TOTAL	6983	55617	54763	34415	133520	84720	78650	107845	126714	22475	7919	26233
MEAN	225	1854	1767	1110	4769	2733	2622	3479	4224	725	255	874
MAX	1010	11300	4870	4950	16300	8920	6310	12000	18900	2250	1000	3200
MIN	65	260	396	395	1250	1030	1610	975	617	176	46	67
CFSM	.25	2.02	1.93	1.21	5.21	2.98	2.86	3.80	4.61	.79	.28	.95
IN.	.28	2.26	2.22	1.40	5.42	3.44	3.19	4.38	5.15	.91	.32	1.07

CAL YR 1980	TOTAL	721581	MEAN	1972	MAX	15600	MIN	65	CFSM	2.15	IN	29.30
WTR YR 1981	TOTAL	739854	MEAN	2027	MAX	18900	MIN	46	CFSM	2.21	IN	30.05

MONONGAHELA RIVER BASIN

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963, 1965, 1968-74, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 21...	1130	78	205	7.4	14.0	71	58	.0	19	5.8	11	24
DEC 02...	1135	2390	80	7.1	13.0	--	--	.0	--	--	--	--
JAN 20...	1000	395	135	7.0	4.0	37	28	.0	9.6	3.1	6.3	--
MAR 10...	1120	1910	80	7.3	5.0	32	24	.0	8.8	2.4	2.6	--
MAY 05...	1200	2200	70	7.0	17.0	27	17	.0	7.4	2.1	2.5	--
JUN 29...	1200	741	160	7.1	25.0	46	--	.0	13	3.3	5.7	--
JUL 23...	0725	360	215	7.0	21.5	67	--	.0	19	4.8	6.3	--
AUG 25...	1100	78	200	7.0	23.0	69	--	.0	20	4.5	5.8	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 21...	.6	2.0	16	69	7.0	.1	.4	135	122	.18	28.4
DEC 02...	--	--	14	--	--	--	--	--	--	--	--
JAN 20...	.5	--	11	40	5.2	--	4.6	83	78	.11	88.5
MAR 10...	.2	--	10	25	2.8	--	--	63	--	.09	325
MAY 05...	.2	--	12	20	2.8	--	4.5	46	48	.06	273
JUN 29...	.4	--	--	37	5.5	--	--	79	--	.11	158
JUL 23...	.3	--	21	54	--	--	--	118	--	.16	115
AUG 25...	.3	--	21	44	5.8	--	1.8	122	--	.17	25.7

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--
DEC 02...	--	--	--	--	--	--	--	--	--	--	--
JAN 20...	<.010	<.03	.62	.190	<.010	<.03	50	<1	3	5	<10
MAR 10...	--	--	--	--	--	--	--	--	--	--	--
MAY 05...	<.010	--	.57	.090	<.010	--	50	<1	4	4	<10
JUN 29...	--	--	--	--	--	--	--	--	--	--	--
JUL 23...	--	--	--	--	--	--	--	--	--	--	--
AUG 25...	<.010	--	.16	<.010	<.010	--	40	1	1	3	10

MONONGAHELA RIVER BASIN

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03054500 TYGART VALLEY RIVER AT PHILIPPI, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	260	200	60	--	--	60	20	40	--	--	--	--
JAN 20...	130	--	<10	<10	<4	260	10	250	<10	40	<6.0	40
MAR 10...	170	70	100	--	--	200	0	200	--	--	--	--
MAY 05...	370	360	10	<10	7	130	10	120	<10	30	<6.0	25
JUN 29...	440	--	<10	--	--	120	20	100	--	--	--	--
JUL 23...	260	240	20	--	--	80	10	70	--	--	--	--
AUG 25...	290	260	28	10	4	80	8	72	10	82	6.0	36

MONONGAHELA RIVER BASIN

03055500 TYGART LAKE NEAR GRAFTON, WV

LOCATION.--Lat 39°18'50", long 80°02'00", Taylor County, Hydrologic Unit 05020001, at dam on Tygart Valley River, 2.2 mi (3.5 km) upstream from Threefork Creek, and 2.4 mi (3.9 km) upstream from Grafton.

DRAINAGE AREA.--1,184 mi² (3,067 km²).

PERIOD OF RECORD.--April 1938 to current year (monthend contents only). Prior to October 1960, published as "Tygart Reservoir".

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam completed and accepted February 1938; storage began May 15, 1938. Capacity, 285,000 acre-ft (351 hm³) from sedimentation resurvey made in 1959, between elevations 991.5 ft (302.21 m), sill of valves, and 1,167.0 ft (355.70 m), crest of spillway, National Geodetic Vertical Datum of 1929. Dead storage, 2,700 acre-ft (3.33 hm³). Figures given herein represent total contents. Conservation pool elevation is 1,010.0 ft (307.85 m) and water below elevation 991.5 ft (302.21 m), cannot be withdrawn. Reservoir is used for flood control, for supplementary supply for navigation of Monongahela River during period of low flow, and for recreation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 251,100 acre-ft (310 hm³) June 25, 1972, elevation, 1,155.22 ft (352.111 m); minimum since October 1939, 8,330 acre-ft (10.3 hm³) Jan. 25, 1940, elevation, 1,005.15 ft (306.370 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 201,500 acre-ft (248 hm³) June 7, elevation 1,137.30 ft (346.649 m); minimum, 32,020 acre-ft (39.5 hm³) Jan. 21, elevation, 1,035.35 ft (315.575 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	1081.99	91430	-	-
Oct. 31.....	1061.70	62230	-29200	-475
Nov. 30.....	1061.10	61440	-792	-13
Dec. 31.....	1041.22	37980	-23460	-382
CAL YR 1980			+1897	+3
Jan. 31.....	1054.91	53540	+15560	+253
Feb. 28.....	1082.64	92470	+38930	+701
Mar. 31.....	1060.59	60770	-31690	-515
Apr. 30.....	1101.95	125700	+64910	+1091
May 31.....	1101.15	124200	-1496	-24
June 30.....	1094.41	112000	-12220	-205
July 31.....	1094.83	112700	+735	+12
Aug. 31.....	1085.41	96910	-15790	-257
Sept. 30.....	1074.78	80370	-16550	-278
WTR YR 1981			-11060	-15

MONONGAHELA RIVER BASIN

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03056000 TYGART VALLEY RIVER AT TYGART DAM NEAR GRAFTON, WV

LOCATION.--Lat 39°18'50", long 80°02'00", Taylor County, Hydrologic Unit 05020001, at Tygart Dam, 2.2 mi (3.5 km) upstream from Threefork Creek, and 2.4 mi (3.9 km) upstream from Grafton.

DRAINAGE AREA.--1,184 mi² (3,067 km²).

PERIOD OF RECORD.--June 1938 to current year. Prior to October 1960, published as Tygart River at Tygart Dam near Grafton.

GAGE.--Water-stage recorder.

REMARKS.--Discharge computed from records of flow through gates and valves in dam. Flow regulated by Tygart Lake (station 03055500).

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--43 years, 2,363 ft³/s (66.92 m³/s), 27.10 in/yr (688 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s (566 m³/s) Feb. 2, 1939; no flow Aug. 2, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,100 ft³/s (513 m³/s) June 8; minimum daily, 260 ft³/s (7.36 m³/s) July 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	563	730	6140	1030	2390	5850	6150	2420	7190	613	500	650		
2	695	730	5890	1050	2390	5940	5940	4100	7940	755	500	650		
3	830	725	5190	1700	3900	6690	5180	5810	6460	1200	500	650		
4	823	720	4650	2570	5790	7300	3910	7610	6040	1520	500	650		
5	820	715	4620	1870	6060	5720	2760	8050	9860	1520	500	650		
6	813	710	4510	892	5230	6060	1800	5710	7330	1520	500	650		
7	810	705	3850	800	3900	7080	1140	2330	8610	1520	500	650		
8	803	700	3280	802	2440	6940	927	1550	15600	1520	500	765		
9	793	693	3850	815	1100	6740	1190	1550	13600	1520	500	1200		
10	790	690	5590	820	1110	6490	1200	1550	11000	1200	560	1520		
11	783	685	6720	818	1690	4980	1230	1550	13200	890	620	1520		
12	780	680	6480	807	3550	3620	1270	1550	13800	654	620	1520		
13	773	680	4750	800	5440	3530	1310	2170	11600	470	620	1510		
14	770	677	2500	797	5970	3420	1340	3160	6850	629	515	1500		
15	763	670	1990	790	5790	3290	1360	3170	7490	436	620	1500		
16	697	670	1970	790	5530	2640	1370	4820	8870	1680	620	1490		
17	760	670	1460	783	4220	2100	1380	6420	3470	260	515	1990		
18	753	2260	976	780	3150	2090	1420	6350	1220	260	498	2970		
19	750	4640	890	773	3220	1560	2960	6300	900	310	615	2940		
20	743	5080	800	699	3320	1060	4490	8120	900	360	615	2920		
21	740	4940	800	633	3760	1060	3750	10900	1240	448	615	2870		
22	733	4170	787	763	4340	1080	3000	11300	2260	500	615	2810		
23	730	2880	680	740	4570	1080	3000	7460	4000	500	612	2060		
24	723	2280	580	883	6900	1100	2250	2910	3910	500	610	970		
25	720	2530	580	992	9490	1120	1530	1550	3020	500	610	570		
26	720	5040	580	1010	9330	1740	1550	1550	2990	500	609	570		
27	720	6930	583	1050	9070	2350	1570	1220	3110	500	605	570		
28	720	6810	593	1140	7360	4330	1580	900	2320	500	627	570		
29	720	6640	603	1950	---	6600	1590	1310	958	500	650	565		
30	720	6420	812	2420	---	6510	1600	3130	610	500	650	560		
31	726	---	1010	2410	---	6350	---	5540	---	500	650	---		
TOTAL	23284	72470	83714	34177	131010	126420	69747	132060	186348	24285	17771	40010		
MEAN	751	2416	2700	1102	4679	4078	2325	4260	6212	783	573	1334		
MAX	830	6930	6720	2570	9490	7300	6150	11300	15600	1680	650	2970		
MIN	563	670	580	633	1100	1060	927	900	610	260	498	560		
CAL YR 1980	TOTAL	963844	MEAN	2633	MAX	14700	MIN	340	MEAN#	2636	CFSM#	2.23	IN#	30.35
WTR YR 1981	TOTAL	941296	MEAN	2579	MAX	15600	MIN	260	MEAN#	2564	CFSM#	2.17	IN#	29.46

* Adjusted for changes in contents in Tygart Lake.

MONONGAHELA RIVER BASIN

03057000 TYGART VALLEY RIVER AT COLFAX, WV

LOCATION.--Lat 39°26'15", long 80°07'55", Marion County, Hydrologic Unit 05020001 on right bank at highway bridge at Colfax, 300 ft (91 m) upstream from Guyses Run, and at mile 6.0 (9.7 km). Records include flow of Guyses Run.

DRAINAGE AREA.--1,366 mi² (3,538 km²), including that of Guyses Run.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to current year. Prior to October 1960, published as Tygart River at Colfax.

REVISED RECORDS.--WSP 1083: 1942(M), WSP 1335: 1941.

GAGE.--Water-stage recorder. Datum of gage is 856.27 ft (260.991 m) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1944. Formerly published as 855.49 ft (260.753 m) Baltimore & Ohio RR datum. Since Jan. 19, 1945, auxiliary water-stage recorder at Fairmont waterworks, 5.7 mi (9.2 km) downstream from base gage, at datum 856.99 ft (261.211 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for January and those for period of no gage-height record, July 28 to Aug. 27, which are poor. Flow regulated by Tygart Lake (station 03055500). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--42 years, 2,659 ft³/s (75.30 m³/s), 26.43 in/yr (671 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft³/s (637 m³/s) Feb. 14, 1948, gage height, 16.86 ft (5.139 m); maximum gage height, 19.77 ft (6.026 m) Mar. 5, 1963, backwater from West Fork River; minimum discharge, 94 ft³/s (2.66 m³/s) July 3, 1946; minimum daily, 129 ft³/s (3.65 m³/s) May 5-7, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 39.6 ft (12.07 m) at site 1,100 ft (335 m) downstream, present datum, from information by local resident. The stage on that day was probably affected by backwater from West Fork River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,000 ft³/s (566 m³/s) June 6, gage height, 16.18 ft (4.932 m), backwater from West Fork River; minimum, 189 ft³/s (5.35 m³/s) July 16, gage height, 3.32 ft (1.012 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	598	779	6170	1260	2540	7010	6150	2810	7380	737	610	730		
2	636	779	5990	1280	4070	6460	5960	4700	8220	763	580	847		
3	864	775	5730	1590	4370	6620	5380	5850	7300	1140	574	1170		
4	870	774	4800	2440	5910	7330	4200	7340	6760	1660	630	1750		
5	860	769	4690	2480	6460	6930	3110	7970	11000	1630	574	1640		
6	853	765	4580	1090	6410	6300	2240	6650	15000	1620	580	1010		
7	845	762	4200	957	5340	7390	1320	2910	10000	1610	592	850		
8	839	760	3540	960	3110	7060	1100	1770	15600	1610	580	854		
9	835	756	3940	980	1380	6770	1340	1720	15800	1600	574	1210		
10	830	749	5690	984	1340	6470	1390	1700	11100	1470	574	1650		
11	826	744	6860	980	1940	5520	1980	1750	13600	964	662	1620		
12	818	739	6530	970	3620	3710	2830	1990	14400	921	668	1600		
13	814	736	5460	970	6070	3600	3490	2140	12400	346	668	1580		
14	809	730	2880	960	6210	3480	2570	3320	11900	832	642	1560		
15	804	728	2150	960	5740	3350	2460	4600	7120	575	616	1740		
16	750	734	2130	953	5560	3060	2040	5060	9970	2010	696	2110		
17	796	793	1900	937	4870	2310	1980	6720	4790	283	703	1860		
18	806	2470	1110	940	3700	2270	2270	6490	1710	281	656	3130		
19	802	4510	1100	940	3650	2080	2880	7660	1130	278	630	3050		
20	797	5050	900	925	4800	1280	4850	8910	1290	382	642	2980		
21	793	4850	854	775	7470	1270	4360	10900	1430	511	636	2920		
22	780	4340	856	933	5690	1270	3220	11200	2600	653	630	2860		
23	770	3130	839	999	6070	1290	3240	8660	3960	560	630	2480		
24	762	2750	693	1060	7440	1320	3200	3790	4410	565	623	1310		
25	852	3420	660	1200	9980	1350	2180	1770	3210	556	616	629		
26	992	4390	660	1350	9440	1580	2080	1730	3390	537	610	613		
27	863	6950	670	1960	9020	2920	2260	1610	3290	630	610	610		
28	817	6840	664	1800	8060	4050	2300	1120	2810	668	610	604		
29	805	6660	691	2010	---	6700	2100	1390	1420	1040	662	598		
30	791	6400	828	2610	---	6580	2000	2590	738	906	664	592		
31	785	---	1200	2580	---	6370	---	5950	---	689	669	---		
TOTAL	25062	74632	88965	40833	150260	133700	86480	142770	213728	28027	19411	46157		
MEAN	808	2488	2870	1317	5366	4313	2883	4605	7124	904	626	1539		
MAX	992	6950	6860	2610	9980	7390	6150	11200	15800	2010	703	3130		
MIN	598	728	660	775	1340	1270	1100	1120	738	278	574	592		
CAL YR 1980	TOTAL	1078042	MEAN	2945	MAX	15100	MIN	375	MEAN#	2948	CFSM#	2.16	IN#	29.40
WTR YR 1981	TOTAL	1050025	MEAN	2877	MAX	15800	MIN	278	MEAN#	2862	CFSM#	2.10	IN#	28.51

*Adjusted for change in contents in Tygart Lake.

MONONGAHELA RIVER BASIN

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03057000 TYGART VALLEY RIVER AT COLFAX, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963-65, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 15...	0930	801	145	6.8	15.0	52	43	.0	15	3.6	5.0	17
DEC 01...	1145	6100	70	7.0	7.0	--	--	.0	--	--	--	--
JAN 15...	1330	1000	140	6.8	.0	43	33	.0	12	3.2	4.7	--
MAR 09...	1300	6830	101	6.1	5.0	31	26	.0	8.5	2.3	2.3	--
APR 29...	1345	2100	123	7.7	13.0	37	25	.0	10	2.8	3.5	--
JUN 26...	1115	3470	117	7.3	18.0	38	--	.0	11	2.5	1.9	--
JUL 22...	1800	616	190	7.7	25.0	65	--	.0	19	4.3	4.8	--
AUG 17...	1000	645	160	7.3	21.0	52	--	.0	15	3.6	2.8	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 15...	.3	1.4	11	42	3.8	.0	3.4	93	80	.13	201
DEC 01...	--	--	7	--	--	--	--	--	--	--	--
JAN 15...	.3	--	12	39	4.4	--	4.7	80	77	.11	216
MAR 09...	.2	--	6	24	2.8	--	--	57	--	.08	1050
APR 29...	.3	--	15	32	3.0	--	4.8	75	66	.10	425
JUN 26...	.1	--	11	32	2.2	--	--	65	--	.09	609
JUL 22...	.3	--	16	55	4.0	--	--	123	--	.17	205
AUG 17...	.2	--	14	39	3.2	--	4.6	91	--	.12	158

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 15...	--	--	--	--	--	--	--	--	--	--	--
DEC 01...	--	--	--	--	--	--	--	--	--	--	--
JAN 15...	<.010	<.03	.63	.110	.050	.15	50	<1	<1	4	<10
MAR 09...	--	--	--	--	--	--	--	--	--	--	--
APR 29...	<.010	--	.57	.020	<.010	--	50	<1	2	6	<10
JUN 26...	--	--	--	--	--	--	--	--	--	--	--
JUL 22...	--	--	--	--	--	--	--	--	--	--	--
AUG 17...	<.010	--	.52	.030	<.010	--	50	1	1	3	10

MONONGAHELA RIVER BASIN

03057000 TYGART VALLEY RIVER AT COLFAX, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 15...	150	130	20	--	--	90	20	70	--	--	--	--
JAN 15...	200	--	<10	<10	<4	280	0	290	<10	44	<6.0	18
MAR 09...	600	580	20	--	--	150	0	150	--	--	--	--
APR 29...	1100	1100	10	<10	6	170	0	170	<10	43	<6.0	10
JUN 26...	790	730	60	--	--	170	40	130	--	--	--	--
JUL 22...	290	270	20	--	--	200	10	190	--	--	--	--
AUG 17...	200	190	8	10	4	150	20	130	10	64	6.0	34

MONONGAHELA RIVER BASIN

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03058000 WEST FORK RIVER AT BROWNSVILLE, WV

LOCATION.--Lat 39°00'10", long 80°28'35", Lewis County, Hydrologic Unit 05020002, on right bank at downstream side of highway bridge at Brownsville, 0.4 mi (0.6 km) downstream from Skin Creek, 2.5 mi (4.0 km) south of Weston, and at mile 71.0 (114.2 km).

DRAINAGE AREA.--102 mi² (264 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,010.85 ft (308.107 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Aug. 15, 1949, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records fair except those for December 19 to February 15, which are poor.

AVERAGE DISCHARGE.--35 years, 167 ft³/s (4.729 m³/s), 22.23 in/yr (565 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,420 ft³/s (182 m³/s) June 25, 1950, gage height, 17.20 ft (5.243 m), from rating curve extended above 3,400 ft³/s (96 m³/s) on basis of slope-area measurement of peak flow; no flow for several days during 1952-54, Sept. 16, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	1000	2480 70.2	10.60 3.231	June 6	1600	*4300 122	13.64 4.157

Minimum discharge, 0.50 ft³/s (0.014 m³/s) Sept. 1, 2, gage height, 4.96 ft (1.512 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	22	180	147	55	1030	116	899	932	43	24	.60
2	12	19	173	154	624	565	241	908	1040	61	16	.90
3	15	17	269	125	886	272	191	360	515	40	12	5.8
4	22	20	183	88	535	174	136	199	750	27	9.1	188
5	24	22	124	70	240	323	129	132	943	37	6.9	154
6	21	22	102	58	130	557	171	110	2840	129	12	55
7	18	20	168	62	110	349	137	139	2120	86	16	25
8	16	23	311	52	95	210	110	120	426	50	42	18
9	14	23	381	42	82	144	94	93	201	30	22	78
10	13	26	540	34	93	113	82	75	738	26	10	61
11	10	25	266	28	380	95	70	135	1060	22	4.0	30
12	10	21	147	22	553	79	64	467	276	18	4.0	17
13	10	20	105	22	400	69	61	377	140	14	3.4	11
14	10	19	78	25	280	60	54	215	544	11	2.8	7.9
15	8.5	20	62	28	190	51	50	884	218	10	2.4	61
16	5.8	22	55	25	138	77	48	649	107	7.8	2.4	804
17	3.4	74	50	22	171	144	227	291	101	8.0	2.0	329
18	3.4	801	42	20	218	140	822	196	69	4.6	2.0	87
19	2.8	393	34	18	201	124	570	1070	50	4.0	1.7	51
20	2.8	133	24	20	642	108	292	1600	126	4.7	1.3	40
21	2.8	78	19	32	2210	96	194	625	139	8.9	1.3	29
22	2.8	54	16	192	1110	92	138	239	203	53	1.1	21
23	2.8	40	16	292	1190	103	141	135	150	16	1.0	15
24	2.8	353	30	212	1310	103	581	91	89	11	1.0	12
25	62	811	58	154	538	91	383	70	71	9.9	1.0	9.6
26	183	313	52	251	292	77	234	56	91	48	1.0	7.8
27	89	202	45	355	182	231	161	52	78	33	1.0	8.2
28	50	304	49	206	202	327	120	198	48	50	.90	7.6
29	42	235	52	125	---	207	100	1110	32	154	.80	7.0
30	32	181	70	80	---	155	137	552	25	111	.70	6.3
31	25	---	108	52	---	131	---	2170	---	47	.60	---
TOTAL	727.9	4313	3809	3013	13057	6297	5854	14217	14122	1174.9	206.40	2147.70
MEAN	23.5	144	123	97.2	466	203	195	459	471	37.9	6.66	71.6
MAX	183	811	540	355	2210	1030	822	2170	2840	154	42	804
MIN	2.8	17	16	18	55	51	48	52	25	4.0	.60	.60
CFSM	.23	1.41	1.21	.95	4.57	1.99	1.91	4.50	4.62	.37	.07	.70
IN.	.27	1.57	1.39	1.10	4.76	2.30	2.13	5.18	5.15	.43	.08	.78

CAL YR 1980	TOTAL	61544.80	MEAN	168	MAX	3070	MIN	2.8	CFSM	1.65	IN	22.45
WTR YR 1981	TOTAL	68938.90	MEAN	189	MAX	2840	MIN	.60	CFSM	1.85	IN	25.14

MONONGAHELA RIVER BASIN

03058000 WEST FORK RIVER AT BROWNSVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963, 1965, 1976 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT 08...	1200	16	185	7.0	13.0	6.4	5	--	68	37
NOV 06...	1200	22	180	6.8	9.0	8.6	6	29	63	36
DEC 02...	1200	150	110	6.9	7.0	10.6	40	290	--	--
JAN 15...	1030	28	160	7.6	.5	12.9	<10	22	58	17
FEB 04...	1200	216	130	6.8	1.0	12.3	<10	89	43	27
MAR 05...	1200	325	157	6.6	5.0	11.2	--	700	47	26
APR 08...	1140	110	143	6.4	11.0	10.0	10	100	45	27
MAY 06...	1145	105	136	7.1	15.5	7.0	11	200	48	23
JUN 10...	1140	748	130	7.0	18.5	8.5	--	--	43	18
JUL 01...	1200	40	180	7.2	22.0	6.2	<10	160	70	--
AUG 21...	1800	16	190	7.1	30.0	--	--	--	67	--
SEP 11...	1115	10	165	7.0	23.5	8.0	--	74	62	--
SEP 01...	1100	.57	220	7.5	28.0	--	48	52	79	--

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AC- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 08...	.0	19	5.1	7.8	--	.4	--	38	30
NOV 06...	.0	17	5.1	7.4	20	.4	2.4	33	34
DEC 02...	.0	--	--	--	--	--	--	18	--
JAN 15...	.0	16	4.3	6.5	--	.4	--	50	37
FEB 04...	.0	12	3.2	3.7	--	.2	--	20	24
MAR 05...	.0	13	3.6	3.0	--	.2	--	26	31
APR 08...	.0	12	3.6	3.4	--	.2	--	22	27
MAY 06...	.0	13	3.7	3.3	--	.2	--	31	30
JUN 10...	.0	12	3.1	2.1	--	.1	--	30	26
JUL 01...	.0	19	5.5	5.3	--	.3	--	42	36
AUG 21...	.0	19	4.8	5.7	--	.3	--	54	34
SEP 11...	.0	17	4.6	7.1	--	.4	--	46	28
SEP 01...	.0	22	5.7	8.0	--	.4	--	50	34

MONONGAHELA RIVER BASIN

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03058000 WEST FORK RIVER AT BROWNSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)
OCT										
08...	11	--	--	107	--	.15	4.6	0	--	--
NOV										
06...	8.5	.0	4.8	116	96	.16	6.8	9	--	--
JAN										
15...	6.6	--	5.2	98	103	.13	7.4	3	<.010	<.03
FEB										
04...	3.7	--	--	64	--	.09	37.3	18	--	--
MAR										
05...	4.4	--	--	79	--	.11	69.3	44	--	--
APR										
08...	4.0	--	--	71	--	.10	21.1	20	--	--
MAY										
06...	3.3	--	4.8	82	75	.11	23.2	7	<.010	--
JUN										
10...	2.5	--	--	83	--	.11	168	140	--	--
JUL										
01...	4.0	--	--	108	--	.15	11.7	23	--	--
21...	--	--	--	105	--	.14	4.5	--	--	--
AUG										
11...	7.2	--	4.3	--	--	--	--	13	<.010	--
SEP										
01...	11	--	3.0	132	--	.18	.20	16	<.010	--

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BIARIUM, DIS- SOLVED (UG/L AS BA)
OCT										
08...	.11	--	--	.13	.24	1.1	.040	--	--	--
NOV										
06...	.10	--	--	.10	.20	.89	.080	--	--	--
JAN										
15...	.50	.49	.040	.16	.66	2.9	.010	<.010	<.03	50
FEB										
04...	.76	--	--	.34	1.1	4.9	.030	--	--	--
MAR										
05...	.48	--	--	.22	.70	3.1	.090	--	--	--
APR										
08...	.46	--	--	.15	.61	2.7	.030	--	--	--
MAY										
06...	.24	.23	.010	.45	.69	3.1	.020	<.010	--	50
JUN										
10...	.23	--	--	.42	.65	2.9	.070	--	--	--
JUL										
01...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	.17	.16	.050	.34	.51	2.3	.060	<.010	--	60
SEP										
01...	<.01	<.01	<.010	--	--	--	<.010	<.010	--	60

MONONGAHELA RIVER BASIN

03058000 WEST FORK RIVER AT BROWNSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT 08...	--	--	--	--	910	710	200	--	--	--	190
NOV 06...	--	--	--	--	550	380	170	--	--	--	110
DEC 02...	--	--	--	--	--	--	--	--	--	--	--
JAN 15...	<1	<1	<3	<10	380	300	63	--	<10	<4	150
FEB 04...	--	--	--	--	770	670	100	--	--	--	60
MAR 05...	--	--	--	--	1500	1400	60	--	--	--	120
APR 08...	--	--	--	--	390	280	110	--	--	--	80
MAY 06...	<1	<1	<3	<10	560	460	100	--	<10	<4	100
JUN 10...	--	--	--	--	4000	3900	120	--	--	--	240
JUL 01...	--	--	--	--	970	800	170	0	--	--	170
21...	--	--	--	--	1500	1400	150	--	--	--	360
AUG 11...	<1	<1	<3	<10	2200	2200	50	--	<10	<4	230
SEP 01...	1	21	3	12	590	530	65	--	10	4	320

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
OCT 08...	30	160	--	2	1	--	--	20	--	.00
NOV 06...	20	90	--	6	1	--	--	10	--	.00
DEC 02...	--	--	--	21	0	--	--	20	--	.00
JAN 15...	0	150	<10	0	5	69	<6.0	40	<4	<.01
FEB 04...	0	70	--	4	0	--	--	100	--	<.01
MAR 05...	20	100	--	9	0	--	--	70	--	<.01
APR 08...	10	70	--	4	0	--	--	40	--	<.01
MAY 06...	20	80	<10	4	0	57	<6.0	30	4	<.01
JUN 10...	170	70	--	14	0	--	--	20	--	--
JUL 01...	20	150	--	6	<1	--	--	20	--	<.01
21...	30	330	--	--	--	--	--	--	--	--
AUG 11...	50	180	<10	5	<1	81	<6.0	40	<4	<.01
SEP 01...	10	310	10	5	<1	110	6.0	50	33	<.01

MONONGAHELA RIVER BASIN

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03058500 WEST FORK RIVER AT BUTCHERVILLE, WV

LOCATION.--Lat 39°05'25", long 80°28'05", Lewis County, Hydrologic Unit 05020002, on right bank at Butcherville, 0.5 mi (0.8 km) upstream from Freemans Creek, 3,500 ft (1,067 m) downstream from abandoned bridge on Weston-Clarksburg interurban electric railway, 3.0 mi (4.8 km) north of Weston, and at mile 62.0 (99.8 km).

DRAINAGE AREA.--181 mi² (469 km²).

PERIOD OF RECORD.--April 1915 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1053: 1935. WSP 1335: 1918, 1923.

GAGE.--Water-stage recorder. Datum of gage is 993.0 ft (302.67 m) Department of Highways datum. Prior to Feb. 17, 1937, nonrecording gage at interurban bridge 3,500 ft (1,067 m) upstream. Feb. 17, 1937, to Apr. 7, 1939, nonrecording gage at site 2,500 ft (762 m) upstream. Prior to Oct. 1, 1942, at datum 10.0 ft (3.05 m) lower.

REMARKS.--Records good, except those for October 24 to February 15, which are poor. The flow from 30.4 mi² (78.7 km²) is partially controlled, but not diverted, by eight floodwater detention reservoirs and one multi-purpose reservoir. Some additional regulation of low flow from one water-supply reservoir, approximate capacity 96 acre-ft (118,000 m³).

AVERAGE DISCHARGE.--66 years, 302 ft³/s (8.553 m³/s), 22.66 in/yr (576 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s (510 m³/s) June 25, 1950, gage height, 16.81 ft (5.124 m), from rating curve extended above 7,500 ft³/s (220 m³/s) on basis of slope-area measurement of peak flow; no flow at times during October 1919, September, October, December 1922, caused by either diversion or pondage at small dam upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 17 ft (5.2 m) at site 3,500 ft (1,067 m) upstream, present datum, from information by local residents. The stage on that day may have been affected by backwater from a dam which has since been washed out.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,070 ft³/s (200 m³/s) June 6, gage height, 10.61 ft (3.234 m); minimum, 8.0 ft³/s (0.23 m³/s) Oct. 18, minimum gage height, 0.78 ft (0.238 m) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	34	292	264	102	1480	228	1530	1550	69	33	44
2	27	31	316	289	1020	921	352	1510	1810	93	24	39
3	31	27	511	241	955	493	308	607	956	84	23	31
4	43	25	363	160	540	337	239	356	1070	71	19	255
5	37	29	270	130	290	663	242	250	1190	167	16	257
6	33	37	246	110	180	868	283	224	4340	237	32	94
7	31	31	348	120	150	586	241	244	4170	157	35	50
8	29	28	559	95	161	382	205	216	940	93	66	42
9	27	34	755	76	133	281	187	178	483	65	39	75
10	28	40	820	63	160	224	172	152	1080	53	28	96
11	30	35	519	57	611	191	150	277	1480	48	21	50
12	27	32	330	52	684	162	148	606	503	40	48	34
13	24	28	247	48	500	141	150	530	288	34	27	27
14	13	25	198	50	350	125	137	337	980	31	21	24
15	9.2	24	168	53	255	112	127	1370	447	28	19	75
16	8.4	30	163	49	248	167	120	982	243	24	19	820
17	8.4	80	166	43	350	251	455	478	237	23	19	487
18	9.2	1190	152	38	417	247	1190	338	157	21	15	116
19	12	675	135	33	369	223	827	1720	114	18	15	64
20	11	237	120	38	1120	207	470	2400	316	23	13	49
21	10	134	110	53	3050	189	321	998	316	46	18	40
22	9.6	91	94	150	1600	177	245	448	613	84	51	30
23	9.2	72	110	438	2030	186	271	277	391	43	53	24
24	9.0	439	135	329	1930	185	788	198	207	31	51	43
25	70	995	163	250	846	170	644	156	207	28	49	27
26	300	435	140	404	496	151	420	136	240	51	46	39
27	120	334	130	555	332	502	300	131	165	49	46	34
28	80	463	120	343	423	559	232	325	104	71	49	45
29	63	367	140	213	---	373	203	1450	74	182	49	45
30	52	296	188	135	---	296	227	940	62	132	50	45
31	39	---	223	94	---	256	---	3230	---	55	51	---
TOTAL	1226.0	6298	8231	4973	19302	11105	9882	22594	24733	2151	1045	3101
MEAN	39.5	210	266	160	689	358	329	729	824	69.4	33.7	103
MAX	300	1190	820	555	3050	1480	1190	3230	4340	237	66	820
MIN	8.4	24	94	33	102	112	120	131	62	18	13	24
CFSM	.22	1.16	1.47	.88	3.81	1.98	1.82	4.03	4.55	.38	.19	.57
IN.	.25	1.29	1.69	1.02	3.97	2.28	2.03	4.64	5.08	.44	.21	.64
CAL YR 1980	TOTAL	113679.0	MEAN	311	MAX	5720	MIN	8.4	CFSM	1.72	IN	23.36
WTR YR 1981	TOTAL	114641.0	MEAN	314	MAX	4340	MIN	8.4	CFSM	1.74	IN	23.56

03059000 WEST FORK RIVER AT CLARKSBURG, WV

LOCATION.--Lat 39°16'15", long 80°21'20", Harrison County, Hydrologic Unit 05020002, on downstream side of left abutment of Hartland Bridge on Camden Street at Clarksburg, 700 ft (213 m) downstream from dam at Clarksburg waterworks, 1.2 mi (1.9 km) upstream from Elk Creek, and at mile 32.4 (52.1 km).

DRAINAGE AREA.--384 mi² (995 km²).

PERIOD OF RECORD.--March 1923 to current year.

REVISED RECORDS.--WSP 1113: 1924, 1927, 1929(M), 1930, 1933-35(M), 1936-39, 1940(P), 1944(M), 1945.

GAGE.--Water-stage recorder. Datum of gage is 921.82 ft (280.971 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1961, water-stage recorder at several sites 700 ft (213 m) upstream at datum 10 ft (3.0 m) higher. June 11, 1954, to Sept. 30, 1961, present base gage used as the supplementary gage. Since Oct 1, 1961, former base gage used as the supplementary gage.

REMARKS.--Records good except those for December, January, and February, which are poor. Some water diverted for supply of City of Clarksburg. The flow from 36.1 mi² (93.5 km²) is partially controlled, but not diverted, by nine floodwater detention reservoirs and one multipurpose reservoir. Some additional regulation of low flow by five other reservoirs, combined capacity of 1950 acre-ft (2.40 hm³).

AVERAGE DISCHARGE.--58 years, 594 ft³/s (16.82 m³/s), 21.01 in/yr (534 mm/yr), adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s (504 m³/s) Mar. 7, 1967, gage height, 23.40 ft (7.132 m); no flow over dam during parts of several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,100 ft³/s (343 m³/s) June 7, gage height, 16.94 ft (5.163 m), no other peak above base of 6,700 ft³/s (190 m³/s); minimum, 17 ft³/s (0.48 m³/s) Oct. 18, Aug. 22, gage height, 2.87 ft (0.875 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	51	64	668	480	193	2510	476	1470	3060	146	79	61		
2	49	55	661	582	1740	1930	522	3530	3140	151	52	81		
3	53	50	1130	490	2000	1070	557	1440	2180	193	50	54		
4	76	48	858	370	1200	726	462	813	1860	359	45	144		
5	94	47	621	270	680	1270	424	586	2660	220	38	480		
6	76	48	545	220	420	1850	477	488	9390	600	54	208		
7	59	48	601	250	350	1260	446	505	10300	429	75	87		
8	51	43	1090	190	300	846	379	441	2790	248	75	61		
9	48	44	1240	160	280	636	341	364	1240	171	105	50		
10	47	71	2460	140	326	535	375	306	1310	127	64	60		
11	63	52	1270	120	1030	453	488	437	2170	94	48	78		
12	61	43	757	110	1400	388	494	793	1220	83	69	47		
13	50	40	560	100	1100	338	574	864	696	75	63	35		
14	45	38	441	96	840	292	465	632	1290	70	48	29		
15	42	35	357	100	600	255	405	2350	1140	64	42	40		
16	30	39	320	110	490	302	332	2300	620	57	50	375		
17	25	128	307	94	648	526	432	1110	530	50	39	1030		
18	20	2970	279	82	901	522	2050	706	445	45	32	348		
19	27	1560	259	73	820	468	1750	2110	299	45	26	126		
20	25	677	240	80	1670	433	1020	4990	580	46	21	75		
21	30	388	220	110	4410	395	690	2210	1060	55	20	57		
22	29	258	200	328	3320	357	526	1030	1290	140	18	47		
23	25	186	240	745	3110	340	481	644	1310	144	36	38		
24	23	509	280	670	4510	338	928	484	666	125	50	30		
25	89	1990	340	512	2020	316	1160	375	507	93	48	32		
26	610	1140	300	644	1100	288	873	320	822	70	46	38		
27	357	703	260	1100	756	886	639	297	552	89	44	30		
28	182	974	230	766	714	1420	512	376	342	100	44	42		
29	133	878	247	487	---	851	427	1720	231	179	43	40		
30	115	725	294	304	---	641	450	1300	172	244	43	40		
31	82	---	390	207	---	578	---	3870	---	157	46	---		
TOTAL	2667	13851	17665	9990	36928	23020	19155	38861	53872	4669	1513	3863		
MEAN	86.0	462	570	322	1319	743	639	1254	1796	151	48.8	129		
MAX	610	2970	2460	1100	4510	2510	2050	4990	10300	600	105	1030		
MIN	20	35	200	73	193	255	332	297	172	45	18	29		
MEAN#	94.4	471	579	332	1330	753	649	1264	1807	162	59.5	139		
CFSM#	.25	1.23	1.51	.86	3.46	1.96	1.69	3.29	4.71	.42	.15	.36		
IN.#	.29	1.37	1.74	.99	3.60	2.26	1.89	3.79	5.26	.48	.17	.40		
CAL YR 1980	TOTAL	241244	MEAN	659	MAX	6320	MIN	20	MEAN#	668	CFSM#	1.74	IN.#	23.68
WTR YR 1981	TOTAL	226054	MEAN	619	MAX	10300	MIN	18	MEAN#	629	CFSM#	1.64	IN.#	22.26

* Adjusted for diversion by City of Clarksburg, records furnished by Clarksburg Water Board.

MONONGAHELA RIVER BASIN

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03061000 WEST FORK RIVER AT ENTERPRISE, WV

LOCATION.--Lat 39°25'20", long 80°16'40", Harrison County, Hydrologic Unit 05020002, on left bank 150 ft (46 m) downstream from highway bridge at Enterprise, 0.8 mi (1.3 km) upstream from Bingamon Creek, and at mile 12.1 (19.5 km).

DRAINAGE AREA.--759 mi² (1,966 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1907 to September 1916, October 1916 to September 1918 (gage heights only), October 1932 to current year.

REVISED RECORDS.--WSP 803: 1936. WSP 823: Drainage area. WSP 1113: 1936-38(M), 1939, WSP 1335: 1911-15, 1937. WSP 1625: 1915(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 869.45 ft (265.008 m) National Geodetic Vertical Datum, adjustment of 1912. June 1907 to Sept. 30, 1918, nonrecording gage at site 150 ft (46 m) upstream at same datum.

REMARKS.--Water-discharge records good except those for periods of doubtful-or-no gage-height record, Dec. 5 to Jan. 16, Feb. 15 to Mar. 10, Mar. 17 to May 1, which are poor. The flow from about 40 mi² (104 km²) is partially controlled, but not diverted, by sixteen floodwater detention reservoirs, one municipal water-supply reservoir, and one multipurpose reservoir. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1908-1916, 1934-81), 1,156 ft³/s (32.73 m³/s), 20.68 in/yr (525 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,500 ft³/s (1,030 m³/s) Mar. 7, 1967, gage height, 28.05 ft (8.550 m), from rating curve extended above 21,000 ft³/s (600 m³/s) on basis of slope-area measurement at gage height 27.84 ft (8.486 m); minimum, 3.4 ft³/s (0.10 m³/s) July 27, 1934; minimum gage height, 0.6 ft (0.18 m) Sept. 10, 14, 25, 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1888 reached a stage of about 33 ft (10 m), present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,800 ft³/s (731 m³/s), June 6, gage height, 22.31 ft (6.800 m), no other peaks above base of 12,000 ft³/s (340 m³/s); minimum, 53 ft³/s (1.50 m³/s), Aug. 24, gage height, 1.52 ft (0.463 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	178	1100	950	380	4900	930	2430	5290	491	249	113
2	126	159	1070	1200	3670	3100	1000	6290	4770	455	181	304
3	135	145	1920	1000	4520	2200	1100	2940	3900	407	163	268
4	169	135	1670	800	2150	1500	930	1700	3820	558	169	812
5	205	138	1130	560	1300	2400	830	1190	4870	501	138	1290
6	184	141	990	420	830	3900	1000	999	22500	697	149	573
7	160	138	1200	500	700	2600	880	1010	19100	664	218	292
8	144	129	2200	390	640	2000	780	845	6800	473	214	207
9	134	127	3000	350	600	1400	660	707	2920	359	214	242
10	125	157	4300	290	665	1120	790	610	2880	304	187	184
11	136	183	3300	250	2030	988	950	812	3650	260	138	178
12	167	145	1900	230	2750	847	1000	1340	2580	221	143	152
13	145	130	1300	210	1810	742	1200	1400	1540	207	172	113
14	126	118	930	190	1450	659	920	1100	4080	211	152	91
15	118	114	780	220	1100	577	810	3840	3550	197	124	163
16	113	120	670	244	990	657	630	4450	1710	181	242	491
17	98	154	610	210	1200	1100	1000	2250	1260	163	221	1180
18	92	4090	560	180	2100	990	3400	1420	1040	149	138	752
19	110	3060	520	150	1700	930	3900	4040	785	138	98	346
20	115	1300	480	170	2700	840	3100	9520	1300	138	78	221
21	107	683	430	225	8700	770	1700	4390	2450	178	68	166
22	102	461	380	407	7000	700	1200	2190	3770	296	63	135
23	98	348	460	1120	6000	660	950	1370	2450	304	58	110
24	90	853	550	1300	9100	670	1900	989	1380	296	78	93
25	182	3350	690	1060	6500	620	2500	772	1230	325	96	78
26	998	2140	600	1220	2800	570	1900	662	1400	221	96	82
27	708	1250	550	2660	1600	1600	1400	778	1120	284	89	82
28	397	1690	480	1870	1400	3000	1100	896	735	284	82	77
29	305	1600	570	1150	---	2200	820	2910	553	846	84	93
30	268	1310	680	620	---	1500	1100	2430	455	529	84	91
31	215	---	810	420	---	1200	---	4990	---	381	87	---
TOTAL	6203	24546	35830	20566	76385	46940	40380	71270	113888	10718	4273	8979
MEAN	200	818	1156	663	2728	1514	1346	2299	3796	346	138	299
MAX	998	4090	4300	2660	9100	4900	3900	9520	22500	846	249	1290
MIN	90	114	380	150	380	570	630	610	455	138	58	77
CFSM	.26	1.08	1.52	.87	3.59	2.00	1.77	3.03	5.00	.46	.18	.39
IN.	.30	1.20	1.76	1.01	3.74	2.30	1.98	3.49	5.58	.53	.21	.44
CAL YR 1980	TOTAL	476898	MEAN	1303	MAX	10000	MIN 90	CFSM 1.72	IN 23.37			
WTR YR 1981	TOTAL	459978	MEAN	1260	MAX	22500	MIN 58	CFSM 1.66	IN 22.54			

MONONGAHELA RIVER BASIN

03061000 WEST FORK RIVER AT ENTERPRISE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963-65, 1968-74, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 14...	1230	123	1400	7.4	12.0	540	490	.0	150	41
DEC 05...	1520	1130	410	7.0	5.0	--	--	.0	--	--
JAN 16...	1300	239	910	7.0	2.0	340	250	.0	93	25
MAR 10...	1335	1100	390	7.1	5.0	240	190	.0	65	18
MAY 07...	1045	1000	480	7.3	12.0	250	200	.0	70	19
JUN 24...	1315	1320	660	7.3	20.5	240	--	.0	68	18
JUL 22...	0715	324	1500	7.3	24.0	650	--	.0	180	49
AUG 19...	1220	103	1550	7.5	21.5	630	--	.0	174	46

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 14...	73	22	1.4	4.6	62	670	17	.4	5.6	1120
DEC 05...	--	--	--	--	37	--	--	--	--	--
JAN 16...	47	--	1.1	--	110	350	21	--	7.5	633
MAR 10...	21	--	.6	--	60	220	6.5	--	--	406
MAY 07...	30	--	.8	--	65	230	7.0	--	6.8	457
JUN 24...	26	--	.7	--	60	170	5.8	--	--	411
JUL 22...	93	--	1.6	--	51	790	15	--	--	1300
AUG 19...	--	--	--	--	55	720	20	--	7.8	1280

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N03)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N02)	NITRO- GEN, N02+N03 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT 14...	993	1.5	372	--	--	--	--	--	--
DEC 05...	--	--	--	--	--	--	--	--	--
JAN 16...	604	.86	408	.70	3.1	.030	.10	.73	.430
MAR 10...	--	.55	1210	--	--	--	--	--	--
MAY 07...	398	.62	1230	.44	1.9	.020	.07	.46	.090
JUN 24...	--	.56	1470	--	--	--	--	--	--
JUL 22...	--	1.7	1140	--	--	--	--	--	--
AUG 19...	--	--	356	.66	2.9	.010	.03	.67	.080

MONONGAHELA RIVER BASIN

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03061000 WEST FORK RIVER AT ENTERPRISE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 14...	--	--	--	--	--	--	--	1300	1300	40
JAN 16...	<.010	<.03	50	<1	<1	11	<10	2000	1200	770
MAR 10...	--	--	--	--	--	--	--	3300	2900	430
MAY 07...	<.010	--	50	<1	2	7	<10	2800	2700	140
JUN 24...	--	--	--	--	--	--	--	4800	4700	90
JUL 22...	--	--	--	--	--	--	--	1600	1500	120
AUG 19...	<.010	--	60	1	1	8	10	630	630	3

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 14...	--	--	1100	0	1100	--	--	--	--
JAN 16...	<10	19	860	10	850	<10	620	<6.0	740
MAR 10...	--	--	530	0	540	--	--	--	--
MAY 07...	17	16	520	40	480	<10	430	<6.0	220
JUN 24...	--	--	570	50	520	--	--	--	--
JUL 22...	--	--	1300	0	1300	--	--	--	--
AUG 19...	10	41	960	0	990	10	1600	6.0	440

MONONGAHELA RIVER BASIN

03061500 BUFFALO CREEK AT BARRACKVILLE, WV

LOCATION.--Lat 39°30'15", long 80°10'20", Marion County, Hydrologic Unit 05020003, near center of span on downstream side of highway bridge at Barrackville, 1,700 ft (518 m) upstream from Finchs Run, and at mile 4.0 (6.4 km).

DRAINAGE AREA.--115 mi² (298 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1907 to December 1908, May 1915 to June 1924, August 1932 to current year.

REVISED RECORDS.--WSP 783: 1917(M). WSP 1335: 1916(M), 1918-20(M), 1921, 1922(M), 1924(M), 1933(M), 1940.

GAGE.--Water-stage recorder. Datum of gage is 882.42 ft (268.962 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 6, 1940, nonrecording gage at same site. Prior to June 4, 1943, at datum 1.98 ft (0.604 m) higher.

REMARKS.--Water-discharge records fair except those for January, which are poor. Flow from 5.20 mi² (13.5 km²) is partially controlled, but not diverted, by three floodwater-detention reservoirs. Some additional regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--58 years (water years 1908, 1916-23, 1933-81), 170 ft³/s (4.814 m³/s), 20.07 in/yr (510 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 9,490 ft³/s (269 m³/s) Jan. 22, 1917, gage height, 16.2 ft (4.94 m), present datum; no flow during greater part of period September to November 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1912 reached a stage of about 18 ft (5.5 m), present site and datum, discharge, 11,600 ft³/s (330 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,330 ft³/s (179 m³/s) June 6, gage height, 13.03 ft (3.972 m), no other peak above base of 3,500 ft³/s (99 m³/s); minimum, 5.7 ft³/s (0.16 m³/s) Oct. 13, gage height, 1.87 ft (0.570 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	19	181	65	134	765	92	144	134	118	40	10
2	10	17	183	71	1770	373	87	140	132	79	29	18
3	13	16	295	67	581	245	74	115	112	54	25	17
4	11	16	189	50	288	180	68	98	273	47	26	40
5	11	16	138	46	177	703	71	87	496	42	32	42
6	11	17	123	50	140	589	69	83	4840	37	34	24
7	10	16	146	49	119	332	58	86	1170	33	50	17
8	9.7	15	246	45	110	227	53	70	378	29	38	15
9	9.0	15	341	41	95	174	55	61	290	26	30	17
10	8.0	15	633	38	106	141	72	56	1390	23	23	15
11	9.4	16	291	34	686	125	107	85	596	21	19	14
12	7.5	15	186	32	508	111	879	162	282	19	18	11
13	7.5	17	138	31	274	96	1330	117	192	24	15	11
14	9.7	16	104	33	226	86	1030	92	1350	37	13	9.7
15	10	15	86	37	193	75	672	601	550	25	13	13
16	9.4	16	86	35	182	103	360	403	262	20	13	36
17	9.0	22	76	34	476	173	343	215	204	18	13	30
18	9.0	468	64	31	609	145	479	147	138	16	13	20
19	7.7	190	62	30	399	129	316	926	99	16	11	16
20	7.7	103	51	30	596	111	244	941	109	17	11	15
21	7.0	72	41	34	1000	103	175	348	88	127	10	13
22	7.0	54	35	56	477	93	139	204	275	129	9.5	12
23	7.2	45	37	96	1470	91	169	136	148	59	10	10
24	11	362	45	106	964	89	319	101	88	42	8.9	9.8
25	69	428	42	103	452	84	325	80	137	35	8.6	9.6
26	194	185	35	327	290	75	254	66	252	30	8.2	9.3
27	68	154	32	809	210	118	249	61	109	72	8.4	9.7
28	43	256	31	371	324	153	214	80	71	73	8.4	8.4
29	33	212	32	215	---	132	178	78	53	248	8.4	8.4
30	25	167	45	110	---	126	145	88	50	114	9.7	8.6
31	21	---	54	82	---	111	---	181	---	61	10	---
TOTAL	677.8	2975	4048	3158	12856	6058	8626	6052	14268	1691	566.1	489.5
MEAN	21.9	99.2	131	102	459	195	288	195	476	54.5	18.3	16.3
MAX	194	468	633	809	1770	765	1330	941	4840	248	50	42
MIN	7.0	15	31	30	95	75	53	56	50	16	8.2	8.4
CFSM	.19	.86	1.14	.89	3.99	1.70	2.50	1.70	4.14	.47	.16	.14
IN.	.22	.96	1.31	1.02	4.16	1.96	2.79	1.96	4.62	.55	.18	.16

CAL YR 1980 TOTAL 72169.8 MEAN 197 MAX 5250 MIN 7.0 CFSM 1.71 IN 23.35
WTR YR 1981 TOTAL 61465.4 MEAN 168 MAX 4840 MIN 7.0 CFSM 1.46 IN 19.88

MONONGAHELA RIVER BASIN

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03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963, 1964, 1976 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to September 1981 (discontinued).

WATER TEMPERATURES: June 1979 to September 1981 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: June 1979 to September 1981 (discontinued).

REMARKS.--Suspended-sediment samples were taken once daily by an observer and hourly by automatic sampler on rises.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,300 micromhos Sept. 29, 1981; minimum daily, 108 micromhos June 6, 1981.

WATER TEMPERATURES: Maximum daily, 25.0°C July 17, 21, Aug. 10, 1980; minimum daily, 1.0°C Feb. 5, 29, 1980,

Jan. 2, 11, 12, 30, Feb. 4, 7, 13, 1981.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,540 mg/L Aug. 18, 1980; minimum daily mean, 0 mg/L Dec. 11, 20,

30, 1979.

SEDIMENT LOADS: Maximum daily, 28,600 tons (25,900 tonnes) Aug. 18, 1980; minimum daily, 0 tons (0 tonnes)

Dec. 11, 20, 30, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,300 micromhos Sept. 29; minimum daily, 108 micromhos June 6.

WATER TEMPERATURES: Maximum daily, 24.0°C July 10, 20; minimum daily, 1.0°C Jan. 2, 11, 12, 30, Feb. 4, 7, 13.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 918 mg/L Feb. 2; minimum daily mean, 1 mg/L Dec. 22, 27-30, Mar. 20, Sept. 24.

SEDIMENT LOADS: Maximum daily, 10,200 tons (9,250 tonnes) June 6; minimum daily, 0.03 tons (0.03 tonnes) Sept. 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CACC3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 15...	1500	9.5	5500	8.1	14.0	710	600	.0	200	50	740
DEC 02...	1050	159	360	6.2	5.5	--	--	.3	--	--	--
JAN 19...	1115	33	1800	7.4	1.5	270	0	.0	76	20	340
MAR 09...	1040	169	455	7.3	4.0	110	48	.0	30	7.8	36
APR 28...	1230	212	520	7.5	16.0	110	77	.0	32	7.9	58
JUN 23...	1000	140	770	7.9	18.0	140	--	--	42	9.0	110
JUL 23...	0800	62	7000	8.0	20.0	1300	--	--	390	69	1500
AUG 13...	1200	18	3200	7.8	22.0	450	--	--	133	27	460

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 15...	69	12	8.0	128	2000	190	.4	5.7	7100	3260
DEC 02...	--	--	--	41	--	--	--	--	--	--
JAN 19...	--	9.0	--	580	720	62	--	5.1	1290	1510
MAR 09...	--	1.5	--	76	120	10	--	--	264	--
APR 28...	--	2.4	--	40	150	13	--	5.5	319	288
JUN 23...	--	4.0	--	67	200	22	--	--	485	--
JUL 23...	72	18	11	110	3900	330	.6	6.2	6820	6260
AUG 13...	--	10	--	120	1300	130	--	3.5	2410	--

MONONGAHELA RIVER BASIN

03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT 15...	9.6	182	--	--	--	--	--	--	--	--	--
DEC 02...	--	--	.60	2.7	.009	.03	--	.61	.130	--	.010
JAN 19...	1.7	115	.53	2.3	.010	.03	--	.54	.290	--	<.010
MAR 09...	.36	120	--	--	--	--	--	--	--	--	--
APR 28...	.43	183	.24	1.1	.010	.03	--	.25	.070	--	<.010
JUN 23...	.66	183	--	--	--	--	--	--	--	--	--
JUL 23...	9.2	1140	--	--	--	--	.04	--	--	.030	--
AUG 13...	3.2	117	.25	1.1	.070	.23	--	.32	.180	--	.040

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS EE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 15...	--	--	--	--	--	--	--	--	--	--	--
DEC 02...	.03	--	--	--	--	--	--	--	--	--	--
JAN 19...	<.03	--	--	--	--	60	<1	--	<1	--	--
MAR 09...	--	--	--	--	--	--	--	--	--	--	--
APR 28...	--	--	--	--	--	40	<1	--	2	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--	--
JUL 23...	--	1	2	5	<50	--	--	5	--	1	30
AUG 13...	.12	--	--	--	--	60	<1	--	<1	--	--

DATE	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT 15...	--	--	--	--	--	--	520	460	60	--	--
DEC 02...	--	--	--	--	--	--	--	--	--	--	--
JAN 19...	--	5	--	--	<10	--	400	--	<10	--	--
MAR 09...	--	--	--	--	--	--	650	610	40	--	--
APR 28...	--	<3	--	--	<10	--	500	490	10	--	--
JUN 23...	--	--	--	--	--	--	1400	1300	140	--	--
JUL 23...	<10	--	10	30	--	10	1400	1300	120	9400	5
AUG 13...	--	7	--	--	<10	--	530	--	<3	--	--

MONONGAHELA RIVER BASIN

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03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)
OCT 15...	--	--	--	1000	900	100	--	--	--	--
JAN 19...	10	--	37	410	0	430	--	--	--	<10
MAR 09...	--	--	--	130	0	130	--	--	--	--
APR 28...	11	--	18	130	30	100	--	--	--	<10
JUN 23...	--	--	--	150	50	100	--	--	--	--
JUL 23...	--	20	--	1600	200	1400	440	.3	<.01	--
AUG 13...	<10	--	48	460	0	480	--	--	--	<10

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)
OCT 15...	--	--	--	--	--	--	--	--	--	--
JAN 19...	--	--	--	860	<6.0	--	<4	--	--	--
MAR 09...	--	--	--	--	--	--	--	--	--	--
APR 28...	--	--	--	280	<6.0	--	7	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--
JUL 23...	1	<1	<1	--	--	270	--	62	14.0	<.01
AUG 13...	--	--	--	1700	<6.0	--	<4	--	--	--

MONONGAHELA RIVER BASIN

03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2000	760	292	552	418	163	458	330	439	1360	478	5000
2	1060	1310	272	591	180	220	560	352	460	1830	545	3970
3	2700	1550	325	630	172	228	580	393	3900	4250	530	2430
4	1140	1850	267	599	240	253	620	370	530	645	556	2630
5	2200	1900	361	610	285	300	660	390	305	675	532	2220
6	2300	1800	391	622	322	186	700	445	108	705	922	1210
7	1220	2000	451	649	332	233	670	438	180	795	881	1850
8	1100	1600	310	725	380	272	700	465	240	898	758	3000
9	1000	2200	287	768	400	306	770	455	289	910	563	1480
10	880	750	193	648	443	339	770	470	227	970	880	3010
11	800	610	253	643	318	371	700	515	190	975	940	2750
12	840	560	317	633	185	395	390	545	261	1900	975	4000
13	910	2000	374	1080	258	335	150	322	309	1500	2180	4900
14	1000	2350	394	920	289	430	225	354	194	990	2700	5400
15	3700	2750	394	1060	305	460	195	430	188	1310	2790	5000
16	3850	2850	422	1020	320	482	230	183	415	1290	2750	1460
17	4000	2400	462	1980	339	385	270	127	822	1270	2050	1780
18	4200	770	560	2450	175	305	190	272	1650	1440	3400	1780
19	4100	250	600	1750	186	342	220	309	2500	2440	2500	1830
20	3800	315	690	1880	258	338	270	154	480	1970	4500	2590
21	3600	390	724	860	165	372	290	225	3110	845	4850	3210
22	3700	423	671	890	224	400	363	285	645	1040	5190	4000
23	1730	475	655	900	265	430	402	339	1160	519	5500	4500
24	3900	581	673	365	163	318	314	395	2450	528	5700	5000
25	2800	234	663	362	216	400	239	445	425	648	5650	5190
26	615	242	718	365	247	445	232	520	282	822	5780	5200
27	330	330	891	154	283	465	240	555	1250	833	5300	5700
28	394	398	710	194	314	382	263	640	445	868	5800	5600
29	475	300	759	238	---	370	290	660	495	690	5800	6300
30	480	275	737	295	---	348	305	705	560	313	6250	6100
31	600	---	670	343	---	400	---	585	---	434	5200	---
MEAN	1980	1140	500	799	274	344	409	412	817	1150	2980	3640
WTR YR 1981	MEAN	1210	MAX	6300	MIN	108						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	7.0	5.0	3.0	2.0	7.0	12.0	14.0	16.0	20.0	20.0	22.0
2	16.0	7.0	6.0	1.0	3.0	6.0	12.0	11.0	17.0	20.0	20.0	22.0
3	15.0	6.0	5.0	2.0	4.0	5.0	11.0	10.0	17.0	20.0	22.0	22.0
4	14.0	10.0	4.0	2.0	1.0	4.0	14.0	12.0	19.0	20.0	22.0	22.0
5	13.0	9.0	5.0	2.0	2.0	6.0	14.0	14.0	19.0	21.0	23.0	22.0
6	12.0	7.0	6.0	2.0	2.0	5.0	11.0	11.0	18.0	21.0	23.0	21.0
7	12.0	9.0	7.0	4.0	1.0	4.0	9.0	12.0	17.0	22.0	22.0	21.0
8	12.0	11.0	9.0	2.0	3.0	4.0	11.0	12.0	17.0	22.0	22.0	21.0
9	11.0	10.0	10.0	2.0	2.0	5.0	14.0	14.0	21.0	23.0	22.0	18.0
10	13.0	9.0	9.0	2.0	2.0	5.0	11.0	16.0	19.0	24.0	22.0	17.0
11	15.0	8.0	7.0	1.0	4.0	6.0	14.0	16.0	15.0	22.0	22.0	18.0
12	13.0	5.0	6.0	1.0	2.0	6.0	15.0	16.0	18.0	22.0	22.0	20.0
13	11.0	6.0	6.0	2.0	1.0	6.0	12.0	13.0	20.0	23.0	20.0	20.0
14	11.0	7.0	6.0	2.0	2.0	6.0	13.0	14.0	21.0	22.0	21.0	20.0
15	11.0	9.0	4.0	2.0	2.0	5.0	10.0	16.0	19.0	20.0	22.0	21.0
16	12.0	7.0	5.0	2.0	2.0	7.0	10.0	13.0	20.0	21.0	22.0	19.0
17	13.0	6.0	4.0	2.0	4.0	5.0	12.0	12.0	20.0	21.0	19.0	18.0
18	16.0	5.0	4.0	3.0	6.0	2.0	14.0	14.0	18.0	21.0	18.0	16.0
19	14.0	5.0	5.0	2.0	7.0	4.0	13.0	12.0	20.0	22.0	17.0	15.0
20	14.0	4.0	2.0	2.0	7.0	3.0	11.0	10.0	20.0	24.0	18.0	15.0
21	12.0	3.0	2.0	2.0	7.0	4.0	10.0	12.0	20.0	23.0	18.0	16.0
22	12.0	4.0	2.0	2.0	7.0	4.0	10.0	13.0	20.0	21.0	19.0	16.0
23	10.0	4.0	3.0	2.0	9.0	6.0	12.0	14.0	18.0	20.0	18.0	14.0
24	11.0	5.0	3.0	2.0	6.0	5.0	13.0	16.0	19.0	21.0	19.0	13.0
25	12.0	8.0	2.0	3.0	6.0	7.0	10.0	18.0	20.0	21.0	19.0	13.0
26	9.0	6.0	3.0	3.0	6.0	6.0	10.0	18.0	19.0	23.0	19.0	---
27	8.0	5.0	2.0	2.0	5.0	9.0	13.0	19.0	17.0	22.0	19.0	17.0
28	10.0	5.0	2.0	4.0	6.0	9.0	14.0	19.0	17.0	23.0	20.0	16.0
29	8.0	6.0	3.0	4.0	---	9.0	17.0	19.0	18.0	22.0	21.0	14.0
30	8.0	5.0	2.0	1.0	---	12.0	15.0	18.0	20.0	19.0	22.0	16.0
31	8.0	---	2.0	2.0	---	10.0	---	18.0	---	19.0	21.0	---
MEAN	12.0	6.5	4.5	2.0	4.0	6.0	12.0	14.5	18.5	21.5	20.5	18.0
WTR YR 1981	MEAN	11.5	MAX	24.0	MIN	1.0						

03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued
SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH									
1	8	.28	20	1.0	14	6.8	3	.53	28	10	182	376								
2	11	.31	8	.37	13	6.4	3	.58	918	5570	27	27								
3	18	.63	8	.35	41	33	6	1.1	92	144	12	7.9								
4	16	.48	11	.48	26	13	8	1.1	24	19	7	3.4								
5	11	.33	10	.43	7	2.6	11	1.4	11	5.3	98	229								
6	10	.30	8	.37	6	2.0	8	1.1	7	2.6	46	73								
7	8	.22	8	.35	14	5.5	7	.93	6	1.9	16	14								
8	8	.21	8	.32	29	19	5	.61	5	1.5	8	4.9								
9	8	.19	8	.32	76	95	5	.55	5	1.3	5	2.3								
10	8	.17	7	.28	115	212	6	.62	8	2.3	4	1.5								
11	8	.20	6	.26	31	24	8	.73	205	435	3	1.0								
12	7	.14	5	.20	75	38	6	.52	53	73	3	.90								
13	8	.16	8	.37	10	3.7	7	.59	15	11	4	1.0								
14	12	.31	8	.35	8	2.2	7	.62	10	6.1	4	.93								
15	15	.41	9	.36	32	7.4	7	.70	14	7.3	5	1.0								
16	13	.33	8	.35	8	1.9	6	.57	13	6.4	15	4.2								
17	13	.32	23	2.0	7	1.4	72	6.4	113	196	12	5.6								
18	15	.36	252	340	5	.86	30	2.5	130	214	4	1.6								
19	14	.29	33	17	4	.67	225	18	43	46	3	1.0								
20	9	.19	14	3.9	3	.41	57	4.6	122	263	1	.30								
21	8	.15	9	1.7	2	.22	28	2.6	300	810	3	.83								
22	9	.17	7	1.0	1	.09	8	1.2	50	64	3	.75								
23	7	.14	5	.61	2	.20	13	3.4	896	5520	3	.74								
24	8	.24	138	240	3	.36	12	3.4	280	729	3	.72								
25	87	26	93	122	3	.34	12	3.3	45	55	4	.91								
26	88	51	21	10	2	.19	144	211	20	16	7	1.4								
27	23	4.2	15	6.2	1	.09	309	779	12	6.8	21	6.7								
28	11	1.3	23	16	1	.08	49	49	107	169	12	5.0								
29	8	.71	14	8.0	1	.09	16	9.3	---	---	7	2.5								
30	7	.47	9	4.1	1	.12	7	2.1	---	---	5	1.7								
31	38	2.2	---	---	2	.29	3	.66	---	---	6	1.8								
TOTAL	---	92.40	---	778.67	---	477.91	---	1108.71	---	14385.5	---	779.58								
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER										
1	6	1.5	7	2.7	64	23	77	25	37	4.0	48	1.3								
2	5	1.2	7	2.6	38	14	56	12	29	2.3	90	4.4								
3	4	.81	6	1.9	48	15	35	5.1	25	1.7	43	2.0								
4	4	.73	3	.79	150	149	20	2.5	23	1.6	60	6.5								
5	3	.58	4	.94	250	335	14	1.6	22	1.9	48	5.4								
6	3	.56	3	.67	720	10200	13	1.3	29	2.7	33	2.1								
7	2	.31	3	.70	156	493	10	.89	31	4.2	32	1.5								
8	2	.29	3	.57	94	96	13	1.0	25	2.6	35	1.4								
9	4	.59	3	.49	78	61	15	1.1	21	1.7	33	1.5								
10	6	1.2	3	.45	473	2110	11	.68	16	.99	31	1.3								
11	60	17	22	5.0	68	109	10	.57	14	.72	34	1.3								
12	378	1020	19	8.3	28	21	13	.67	12	.58	30	.89								
13	472	1920	8	2.5	23	12	24	1.6	15	.61	25	.74								
14	266	757	6	1.5	308	1120	23	2.3	14	.49	22	.58								
15	66	120	156	304	64	95	12	.81	17	.60	20	.70								
16	21	20	52	57	26	18	11	.59	22	.77	23	2.2								
17	42	39	16	9.3	24	13	9	.44	17	.60	19	1.5								
18	46	59	9	3.6	28	10	12	.52	15	.53	15	.81								
19	21	18	173	667	69	18	16	.69	14	.42	16	.69								
20	11	7.2	127	323	57	17	13	.60	12	.36	10	.41								
21	4	1.9	30	28	132	31	77	30	15	.41	15	.53								
22	3	1.1	15	8.3	107	80	88	31	19	.49	3	.10								
23	30	14	8	2.9	37	15	75	12	24	.65	2	.05								
24	48	41	5	1.4	37	8.8	70	7.9	13	.31	1	.03								
25	21	18	5	1.1	85	51	30	2.8	14	.33	3	.08								
26	9	6.2	5	.89	137	93	22	1.8	15	.33	7	.18								
27	16	11	5	.82	57	17	59	11	16	.36	11	.29								
28	10	5.8	23	5.0	48	9.2	33	6.5	15	.34	11	.25								
29	9	4.3	14	2.9	33	4.7	123	82	16	.36	11	.25								
30	8	3.1	54	18	17	2.3	86	26	20	.52	8	.19								
31	---	---	144	70	---	---	66	11	35	.95	---	---								
TOTAL	---	4091.36	---	1532.32	---	15241.0	---	281.96	---	34.42	---	39.17								
TOTAL LOAD FOR YEAR:		38843.00		TONS.																

MONONGAHELA RIVER BASIN

03062400 COBUN CREEK AT MORGANTOWN, WV

LOCATION.--Lat 39°36'30", long 79°57'20", Monongalia County, Hydrologic Unit 05020003, on left bank at Morgantown, 30 ft (9 m) upstream from concrete box culvert on Greenbag Road, and at mile 1.4 (2.3 km).

DRAINAGE AREA.--10.9 mi² (28.2 km²).

PERIOD OF RECORD.--April 1965 to current year.

GAGE.--Water-stage recorder and concrete and metal control. Altitude of gage is 890 ft (271.3 m), from topographic map.

REMARKS.--Records good except those for Dec. 19 to Feb. 10, which are poor.

AVERAGE DISCHARGE.--16 years, 17.1 ft³/s (0.484 m³/s), 21.30 in/yr (541 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,100 ft³/s (87.8 m³/s) Aug. 18, 1980, gage height, 19.94 ft (6.078 m), from floodmarks, from rating curve extended above 800 ft³/s (23 m³/s) on basis of culvert rating computation and flow-over-road measurement of peak flow; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	0130	356 10.1	5.46 1.664	June 10	0530	301 8.52	4.91 1.497
June 6	1600	*431 12.2	6.08 1.853				

Minimum discharge, 0.09 ft³/s (0.003 m³/s) Aug. 29, 30, 31, gage height, 0.48 ft (0.146 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	1.6	14	7.0	29	57	9.4	27	53	2.9	3.7	4.5
2	.31	1.5	18	8.0	129	39	9.4	28	43	2.5	2.6	8.9
3	.44	1.4	21	7.4	58	27	8.1	23	44	2.3	2.3	19
4	1.3	1.4	14	6.5	38	20	7.7	18	52	2.0	2.6	42
5	1.2	1.4	11	5.8	31	56	8.5	15	50	2.2	2.3	18
6	.93	1.3	9.8	6.3	23	56	7.3	14	225	1.8	4.1	8.9
7	.74	1.2	10	7.1	16	40	6.5	12	114	1.6	3.9	5.8
8	.58	1.3	12	6.4	14	30	6.2	9.8	49	1.3	2.6	5.5
9	.50	1.3	22	5.6	13	23	7.3	8.1	45	1.2	2.2	4.8
10	.44	1.4	32	4.7	12	18	9.8	7.3	156	1.4	1.8	3.5
11	.31	1.2	22	4.3	50	16	15	12	65	1.0	1.5	2.8
12	.26	1.0	17	3.7	40	14	111	11	35	.83	1.3	2.3
13	.23	.93	14	3.4	36	13	137	10	27	5.5	1.0	2.0
14	.20	.83	11	3.8	28	11	105	10	68	4.1	.93	1.7
15	.17	.93	9.8	4.3	23	9.4	67	149	45	1.8	.93	17
16	.16	1.2	9.4	3.7	18	11	44	64	26	1.5	1.4	23
17	.15	10	8.5	3.6	27	13	38	38	19	1.3	1.0	9.8
18	.74	35	7.3	3.5	33	12	40	32	13	1.0	.83	5.8
19	1.0	12	6.4	3.3	30	10	30	72	9.4	.83	.74	4.5
20	1.0	7.7	5.7	3.3	99	9.4	29	64	10	2.2	.74	3.9
21	.83	5.8	5.0	3.5	219	8.5	21	39	11	16	.58	3.3
22	.58	4.8	4.5	5.0	83	7.7	18	27	16	4.3	.44	2.8
23	.51	4.3	4.8	7.7	112	7.4	21	18	11	2.4	.31	2.4
24	.51	39	5.5	11	80	7.2	24	14	7.7	2.5	.26	2.0
25	13	45	4.8	10	48	6.8	23	10	27	2.0	.21	1.7
26	9.8	23	4.3	29	30	9.8	21	8.1	36	3.7	.17	1.5
27	3.5	17	3.8	45	21	15	35	7.7	17	18	.14	1.3
28	2.8	15	3.8	31	37	14	32	25	8.5	21	.14	1.2
29	2.6	14	4.6	21	---	13	27	30	4.8	36	.10	.93
30	2.2	13	5.3	18	---	13	22	24	3.5	17	.10	.83
31	1.8	---	6.1	23	---	10	---	93	---	7.3	2.9	---
TOTAL	49.16	265.49	327.4	305.9	1377	597.2	940.2	920.0	1290.9	169.46	43.82	211.66
MEAN	1.59	8.85	10.6	9.87	49.2	19.3	31.3	29.7	43.0	5.47	1.41	7.06
MAX	13	45	32	45	219	57	137	149	225	36	4.1	42
MIN	.15	.83	3.8	3.3	12	6.8	6.2	7.3	3.5	.83	.10	.83
CFSM	.15	.81	.97	.91	4.51	1.77	2.87	2.73	3.95	.50	.13	.65
IN.	.17	.91	1.12	1.04	4.70	2.04	3.21	3.14	4.41	.58	.15	.72

CAL YR 1980	TOTAL	7372.51	MEAN	20.1	MAX	1200	MIN	.15	CFSM	1.84	IN	25.16
WTR YR 1981	TOTAL	6498.19	MEAN	17.8	MAX	225	MIN	.10	CFSM	1.63	IN	22.18

MONONGAHELA RIVER BASIN

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03062600 MONONGAHELA RIVER AT STAR CITY, WV

LOCATION.--Lat 39°28'30", long 79°59'35", Monongalia County, Hydrologic Unit 05020003, at U.S. Highway 19 bridge, and at mile 98.0 (158 km).

DRAINAGE AREA.--2,667 mi² (6908 km²).

PERIOD OF RECORD.--Water years 1963, October 1980 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT										
20...	1200	919	540	7.2	14.0	170	140	.0	50	12
NOV										
13...	1120	638	580	7.0	9.5	--	--	.0	--	--
DEC										
23...	1125	1200	260	6.8	3.0	85	82	.0	24	6.0
MAR										
11...	1115	8350	214	6.7	4.0	68	52	.0	19	5.0
APR										
30...	1310	4200	339	7.6	13.0	110	71	.0	30	7.7
JUN										
25...	1300	5570	380	7.5	21.0	110	--	.0	32	7.6
JUL										
27...	1000	1520	560	7.9	25.0	160	--	.0	45	12
AUG										
24...	1200	1180	650	6.4	26.0	220	--	--	63	16

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT										
20...	33	29	1.1	2.8	35	190	10	.2	3.1	344
NOV										
13...	--	--	--	--	44	--	--	--	--	--
DEC										
23...	13	--	.7	--	4	83	6.3	--	5.5	165
MAR										
11...	7.6	--	.4	--	20	62	4.2	--	--	129
APR										
30...	14	--	.6	--	47	93	6.0	--	5.9	195
JUN										
25...	11	--	.5	--	36	97	4.3	--	--	203
JUL										
27...	32	--	1.1	--	38	200	--	--	--	362
AUG										
24...	45	--	1.4	--	30	240	9.9	--	3.5	476

DATE	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT									
20...	319	.47	854	--	--	--	--	--	--
NOV									
13...	--	--	--	--	--	--	--	--	--
DEC									
23...	144	.22	535	--	--	<.010	<.03	.74	.210
MAR									
11...	--	.18	2910	--	--	--	--	--	--
APR									
30...	183	.27	2210	--	--	<.010	--	.55	.120
JUN									
25...	--	.28	3050	--	--	--	--	--	--
JUL									
27...	--	.49	1490	--	--	--	--	--	--
AUG									
24...	--	.65	1520	.57	2.5	.020	.07	.59	.170

MONONGAHELA RIVER BASIN

03062600 MONONGAHELA RIVER AT STAR CITY, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 20...	--	--	--	--	--	--	--	370	340	30
DEC 23...	<.010	<.03	50	<1	<1	4	<10	910	830	75
MAR 11...	--	--	--	--	--	--	--	680	640	40
APR 30...	.010	.03	50	<1	3	4	<10	770	--	8
JUN 25...	--	--	--	--	--	--	--	1300	1100	220
JUL 27...	--	--	--	--	--	--	--	1000	990	10
AUG 24...	.010	.03	60	1	1	3	10	320	320	5

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 20...	--	--	280	140	140	--	--	--	--
DEC 23...	<10	6	300	30	270	<10	140	<6.0	52
MAR 11...	--	--	220	0	220	--	--	--	--
APR 30...	<10	12	250	10	230	<10	190	<6.0	17
JUN 25...	--	--	230	40	190	--	--	--	--
JUL 27...	--	--	270	20	250	--	--	--	--
AUG 24...	10	10	130	50	78	10	530	6.0	12

MONONGAHELA RIVER BASIN

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03065000 DRY FORK AT HENDRICKS, WV

LOCATION.--Lat 39°04'20", long 79°37'20", Tucker County, Hydrologic Unit 05020004, on right bank at Hendricks, 0.4 mi (0.6 km) upstream from confluence with Blackwater River.

DRAINAGE AREA.--345 mi² (894 km²).

PERIOD OF RECORD.--October 1940 to current year. Published as "Dry Fork River," 1949-52.

GAGE.--Water-stage recorder. Datum of gage is 1,698.76 ft (517.782 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 21, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except those for January, which are poor.

AVERAGE DISCHARGE.--41 years, 762 ft³/s (21.58 m³/s), 29.99 in/yr (762 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s (1,330 m³/s) Oct. 15, 1954, gage height, 15.23 ft (4.642 m), from rating curve extended above 15,000 ft³/s (430 m³/s) on basis of slope-area measurement of peak flow; minimum, 5.5 ft³/s (0.17 m³/s) Sept. 10, 11, 1965, gage height, 0.99 ft (0.302 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,400 ft³/s (379 m³/s) June 6, gage height, 8.83 ft (2.691), no other peak above base of 7,800 ft³/s (220 m³/s); minimum, 13 ft³/s (0.37 m³/s) Aug. 31, gage height, 1.07 ft (0.326 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	263	720	396	228	2520	1700	1430	1490	549	106	162
2	68	210	1420	354	1080	1690	1660	1780	1380	728	79	648
3	74	175	2530	319	1200	1250	1200	1300	1160	507	100	1010
4	75	162	1630	247	903	966	957	993	1530	411	100	2310
5	77	178	1220	190	680	975	1020	784	2830	363	81	1510
6	69	168	1070	206	580	1030	1030	664	8850	598	121	640
7	61	145	1120	228	500	832	840	632	3920	446	325	360
8	54	132	1130	215	425	704	736	490	1930	336	271	648
9	49	127	1310	197	378	616	680	396	1370	275	194	1030
10	51	223	2240	188	396	532	816	354	3550	248	121	518
11	64	215	1550	170	2050	483	1220	416	3050	212	92	319
12	76	174	1180	155	2550	429	1320	704	1640	178	94	224
13	64	150	948	165	2390	442	1490	592	1070	154	81	181
14	55	139	776	164	2220	577	1370	518	2280	158	72	144
15	50	133	624	160	885	511	1630	1040	1840	134	65	319
16	47	139	555	154	824	608	1210	1100	1070	112	155	1450
17	44	272	469	143	1200	518	1280	975	759	99	121	1030
18	45	2360	360	135	2140	480	2010	849	562	89	92	577
19	51	1280	290	126	2890	425	1680	2910	445	79	65	435
20	53	796	230	136	3970	395	1650	4350	1490	91	50	354
21	48	615	181	155	5440	360	1400	2500	1140	87	41	266
22	45	481	206	174	3470	325	1120	1540	1060	112	36	211
23	43	392	360	177	3590	366	975	1060	793	90	29	185
24	40	3070	390	177	3340	462	1220	792	526	83	26	155
25	277	3500	319	166	2050	570	1260	600	409	137	24	134
26	582	1970	189	206	1410	712	1120	483	768	102	21	114
27	269	1390	218	540	1050	4580	1390	422	490	93	20	100
28	354	1140	266	664	1190	3650	1160	984	348	118	17	89
29	849	939	354	497	---	2420	975	2080	269	525	16	79
30	523	776	469	298	---	2670	1050	1460	345	314	15	74
31	347	---	442	198	---	2250	---	1950	---	166	14	---
TOTAL	4573	21714	24766	7300	49029	34348	37169	36148	48364	7594	2644	15276
MEAN	148	724	799	235	1751	1108	1239	1166	1612	245	85.3	509
MAX	849	3500	2530	664	5440	4580	2010	4350	8850	728	325	2310
MIN	40	127	181	126	228	325	680	354	269	79	14	74
CFSM	.43	2.10	2.32	.68	5.08	3.21	3.59	3.38	4.67	.71	.25	1.48
IN.	.49	2.34	2.67	.79	5.29	3.70	4.01	3.90	5.21	.82	.29	1.65
CAL YR 1980	TOTAL	315856	MEAN 863	MAX 5830	MIN 40	CFSM 2.50	IN 34.06					
WTR YR 1981	TOTAL	288925	MEAN 792	MAX 8850	MIN 14	CFSM 2.30	IN 31.15					

MONONGAHELA RIVER BASIN

03066000 BLACKWATER RIVER AT DAVIS, WV

LOCATION.--Lat 39°07'35", long 79°28'10", Tucker County, Hydrologic Unit 05020004, on right bank 0.4 mi (0.6 km) southwest of Davis, 0.5 mi (0.8 km) downstream from Beaver Creek, and at mile 10.6 (17.1 km).

DRAINAGE AREA.--86.2 mi² (223.3 km²).

PERIOD OF RECORD.--April 1921 to current year.

REVISED RECORDS.--WSP 583: 1921-23. WSP 803: Drainage area. WSP 1173: 1931-34(M,m). WSP 1305: 1928(M), 1932-37(M), 1939-41(M), 1944-48(M).

GAGE.--Water-stage recorder. Datum of gage is 3,058.87 ft (932.344 m) levels by West Virginia Power and Transmission Co. Prior to Dec. 18, 1952, nonrecording gage at site 60 ft (18 m) downstream at same datum.

REMARKS.--Records good except those for Dec. 15 to Feb. 10, which are poor.

AVERAGE DISCHARGE.--60 years, 198 ft³/s (5.607 m³/s), 31.19 in/yr (792 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,170 ft³/s (203 m³/s) Mar. 29, 1924, gage height, 13.20 ft (4.023 m), from floodmark; minimum, 1.5 ft³/s (0.042 m³/s) Sept. 11, 12, 1959, gage height, 0.90 ft (0.274 m), caused by filling of small water-supply pool about 1.0 mi (1.6 km) upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 24	2400	1580 44.7	6.27 1.911	June 6	2200	1900 53.8	6.84 2.085
Mar. 27	2100	1700 48.1	6.50 1.981	June 14	2000	*1960 55.5	6.94 2.115

Minimum discharge, 11 ft³/s (0.31 m³/s) Aug. 30, 31, gage height, 1.36 ft (0.415 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	50	189	81	112	684	389	557	456	167	43	36
2	20	41	385	73	420	414	410	703	425	369	35	256
3	23	36	647	65	260	260	269	374	313	225	43	278
4	26	36	327	59	186	214	199	249	435	126	50	666
5	21	43	235	54	147	219	206	201	807	114	44	449
6	18	44	243	59	125	227	231	186	1520	163	63	221
7	26	38	273	64	108	181	188	198	1590	115	117	116
8	23	35	268	59	87	156	151	148	772	87	92	155
9	17	39	391	55	72	132	141	120	403	75	62	292
10	20	58	677	51	198	121	173	106	937	71	45	172
11	32	48	391	47	639	115	555	125	768	63	38	100
12	29	38	256	45	782	110	866	159	362	56	39	78
13	24	35	228	48	542	133	970	133	242	57	34	65
14	20	33	186	47	386	206	595	107	1340	84	30	56
15	18	32	156	46	330	150	536	200	1270	64	30	91
16	17	38	133	41	336	177	340	235	575	52	54	557
17	16	90	117	38	532	141	312	188	290	47	58	371
18	19	577	92	35	833	134	434	158	211	46	39	187
19	19	349	73	34	956	117	307	644	169	41	28	124
20	18	163	58	38	931	105	357	763	489	57	24	112
21	17	125	47	42	1020	97	274	392	418	64	21	97
22	17	105	40	45	857	87	204	235	346	63	18	83
23	16	95	54	45	776	95	223	179	243	54	17	76
24	15	977	72	40	738	113	451	151	170	55	15	69
25	134	1290	62	52	447	134	424	123	136	77	15	58
26	177	605	50	143	296	174	312	120	139	61	15	51
27	92	309	56	163	231	1260	681	175	108	56	15	48
28	122	244	70	188	321	1260	467	393	89	90	14	44
29	161	199	83	110	---	643	312	625	76	209	13	40
30	103	180	98	56	---	524	348	521	102	127	11	37
31	69	---	90	60	---	484	---	775	---	68	15	---
TOTAL	1348	5952	6047	1983	12668	8867	11325	9243	15201	3003	1137	4985
MEAN	43.5	198	195	64.0	452	286	378	298	507	96.9	36.7	166
MAX	177	1290	677	188	1020	1260	970	775	1590	369	117	666
MIN	15	32	40	34	72	87	141	106	76	41	11	36
CFSM	.51	2.30	2.26	.74	5.24	3.32	4.39	3.46	5.88	1.12	.43	1.93
IN.	.58	2.57	2.61	.86	5.47	3.83	4.89	3.99	6.56	1.30	.49	2.15
CAL YR 1980	TOTAL	77924	MEAN 213	MAX 1530	MIN 15	CFSM 2.47	IN 33.63					
WTR YR 1981	TOTAL	81759	MEAN 224	MAX 1590	MIN 11	CFSM 2.60	IN 35.28					

MONONGAHELA RIVER BASIN

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03066630 TUB RUN NEAR DOUGLAS, WV

LOCATION.--Lat 39°06'53", long 79°33'00", Tucker County, Hydrologic Unit 05020004, on left bank 1.9 mi (3.1 km) southwest of Douglas, 1.2 mi (1.9 km) upstream from Forest Service Rd. #18 and at mile 1.4 (2.3 km).

DRAINAGE AREA.--1.17 mi² (3.03 km²).

PERIOD OF RECORD.--August 1980 to current year.

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 3,150 ft (960 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, Dec. 20 to Feb. 24, which are poor. Discharge and rainfall records collected at site for August and September 1980 are contained in files of U.S. Geological Survey. Monthly rainfall totals only are published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 172 ft³/s (4.87 m³/s) June 6, 1981, gage height, 4.21 ft (1.283 m) from rating curve extended above 7.0 ft³/s (0.20 m³/s) on basis of runoff comparison with nearby station; no flow part or all of each day Sept. 10-21, 1980, July 12, 17-19, Aug. 22-31, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 35 ft³/s (0.99 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 27	0900	43 1.22	3.19 0.972	June 4	2245	146 4.13	4.08 1.244
Apr. 11	1315	41 1.16	3.11 0.948	June 6	0045	*172 4.87	4.21 1.283

No flow part or all of each day July 12, 17-19, Aug. 22-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.50	1.6	.42	1.1	8.7	2.3	7.0	3.7	.28	.16	.45
2	.14	.37	4.3	.39	3.5	2.8	2.2	4.9	4.3	.29	.07	4.2
3	.23	.30	1.3	.37	13	1.8	1.2	2.0	2.4	.19	.19	2.1
4	.24	.39	1.4	.35	8.5	1.4	.78	1.2	16	.12	.12	8.4
5	.25	.81	1.4	.37	5.6	1.9	1.1	.89	20	.42	.06	3.6
6	.17	.59	1.8	.39	3.7	1.8	1.2	.95	43	.70	.47	1.1
7	.15	.38	2.4	.42	2.5	1.2	.89	1.0	9.6	.29	.77	.53
8	.10	.28	2.3	.40	1.6	.92	.72	.71	2.7	.15	.52	3.9
9	.08	.44	5.1	.37	1.1	.79	1.1	.51	2.0	.09	.24	4.2
10	.27	.67	5.3	.34	.74	.72	1.9	.43	10	.06	.12	1.1
11	.52	.44	2.2	.32	4.7	.67	14	1.1	5.0	.02	.12	.55
12	.44	.26	1.4	.30	16	.69	7.5	2.6	1.8	.00	.36	.36
13	.38	.28	1.4	.31	14	1.1	6.4	1.6	1.3	.07	.17	.26
14	.23	.22	1.1	.31	1.8	1.4	4.3	.92	14	.18	.08	.19
15	.19	.17	.83	.29	.74	1.2	4.3	3.8	5.2	.08	.07	4.3
16	.13	.33	.73	.22	1.5	1.8	1.9	3.4	1.7	.01	1.3	8.6
17	.10	3.1	.59	.18	3.0	1.5	3.8	2.2	1.4	.00	.52	3.3
18	.35	11	.48	.13	6.2	1.1	7.6	2.0	.93	.00	.18	1.4
19	.58	2.5	.41	.10	7.2	.86	2.8	12	.57	.00	.08	1.2
20	.57	1.2	.32	.12	12	.78	3.3	6.5	3.5	.17	.03	.96
21	.42	.88	.26	.16	10	.74	1.8	2.2	2.7	.27	.01	.65
22	.31	.69	.21	.19	8.0	.70	1.2	1.2	3.5	.41	.00	.47
23	.19	.65	.17	.20	8.0	.72	2.9	.85	1.3	.05	.00	.45
24	.26	11	.52	.19	4.8	.79	6.1	.65	.70	.16	.00	.35
25	3.2	7.1	.41	.21	2.5	1.1	4.4	.50	.58	.15	.00	.27
26	2.4	2.7	.35	.50	1.6	1.9	2.5	.45	.55	.06	.00	.21
27	.95	2.0	.28	1.2	1.3	18	5.3	.57	.33	.38	.00	.18
28	4.0	1.9	.35	.76	5.2	5.6	2.6	2.4	.22	2.8	.00	.17
29	3.3	1.4	.44	.52	---	4.5	2.1	6.4	.14	4.0	.00	.13
30	1.2	1.0	.54	.38	---	4.7	2.4	4.9	.16	1.2	.00	.12
31	.69	---	.45	.39	---	3.0	---	8.4	---	.37	.00	---
TOTAL	22.06	53.55	40.34	10.80	149.88	74.88	100.59	84.23	159.28	12.97	5.64	53.70
MEAN	.71	1.79	1.30	.35	5.35	2.42	3.35	2.72	5.31	.42	.18	1.79
MAX	4.0	11	5.3	1.2	16	18	14	12	43	4.0	1.3	8.6
MIN	.02	.17	.17	.10	.74	.67	.72	.43	.14	.00	.00	.12
CFSM	.61	1.53	1.11	.30	4.57	2.07	2.86	2.33	4.54	.36	.15	1.53
IN.†	.70	1.70	1.28	.34	4.76	2.38	3.20	2.68	5.06	.41	.18	1.71
IN.‡	3.88	4.89	2.50	.58	5.05	2.71	7.07	7.16	11.35	4.05	2.52	7.15

WTR YR 1981 TOTAL 767.92 MEAN 2.10 MAX 43 MIN .00 CFSM 1.80 IN† 24.40 IN‡ 58.91

† Runoff.
‡ Rainfall.

MONONGAHELA RIVER BASIN

03066720 BIG RUN NEAR DOUGLAS, WV

LOCATION.--Lat 39°06'44", long 79°34'22", Tucker County, Hydrologic Unit 05020004, on left bank, 10 ft (3 m) downstream from culvert on U.S. Forest Service Road No. 18, 3.1 miles (5.0 km) south southwest of Douglas and at mile 1.6 (2.6 km).

DRAINAGE AREA.--1.30 mi² (3.84 km²).

PERIOD OF RECORD.--September 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 3,170 ft (966 m), from topographic map.

REMARKS.--Records good except those for Oct. 15 to Feb. 23 and those for period of no gage-height record, Feb. 24 to May 7, and June 6, which are poor. Discharge and rainfall records collected at site for September 1980 are contained in files of U.S. Geological Survey. Monthly rainfall totals only are published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190 ft³/s (5.38 m³/s) June 6, 1981, gage height, 4.70 ft (1.433 m), from floodmark, from rating curve extended above 14 ft³/s (0.40 m³/s) on basis of culvert computation and flow-over-road measurement of peak flow; minimum, 0.06 ft³/s (0.002 m³/s) Aug. 30, 31, 1981, gage height, 2.65 ft (0.808 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 40 ft³/s (1.13 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 24	1015	46 1.30	3.84 1.170	June 6	Unknown	*190 5.38	a4.70 1.433
Feb. 20	2100	64 1.81	4.00 1.219	June 10	0645	52 1.47	3.93 1.198
June 4	2215	79 2.24	4.12 1.256	June 14	1230	66 1.87	4.04 1.231

a From floodmarks.

Minimum discharge, 0.06 ft³/s (0.002 m³/s) Aug. 30, 31, gage height, 2.65 ft (0.808 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.95	3.0	1.0	1.6	21	7.5	13	6.6	1.3	.93	1.5
2	.31	.75	5.0	.96	15	9.0	5.6	9.0	7.7	1.3	.78	12
3	.41	.68	9.7	.90	26	4.5	4.5	6.0	4.7	1.0	1.0	6.5
4	.38	.68	5.6	.83	17	3.5	3.5	4.6	23	.89	.87	19
5	.41	1.3	2.7	.81	12	4.0	4.4	3.5	33	1.8	.71	3.7
6	.36	.87	3.5	.87	7.5	3.4	3.8	3.7	46	1.9	2.3	1.3
7	.34	.74	4.1	.95	3.5	2.9	3.0	3.8	15	1.1	2.0	.88
8	.31	.67	3.8	.88	1.9	2.4	2.3	2.4	4.5	.83	1.7	11
9	.31	1.0	5.5	.82	1.5	2.0	2.9	1.9	4.0	.73	1.0	4.8
10	.47	1.2	10	.75	1.4	1.8	3.5	1.6	25	.65	.81	1.6
11	.83	.81	7.0	.70	15	1.6	25	3.2	9.0	.53	.72	1.0
12	.51	.71	4.5	.67	8.0	1.5	10	6.2	4.0	.35	1.1	.84
13	.43	.66	3.4	.71	5.0	1.9	9.5	3.9	3.2	.56	.72	.74
14	.40	.65	2.9	.71	3.5	2.1	8.5	2.7	28	.90	.60	.68
15	.35	.61	2.5	.69	2.4	1.9	7.8	11	9.4	.48	.62	9.8
16	.32	.75	2.0	.64	2.8	2.2	6.0	8.4	4.2	.28	4.5	18
17	.28	7.5	1.7	.59	7.9	2.0	7.0	5.4	4.2	.25	1.4	4.4
18	.31	14	1.4	.53	14	1.7	12	5.5	2.9	.17	.87	2.1
19	.31	3.6	1.1	.50	14	1.5	6.5	22	2.3	.15	.64	2.0
20	.30	2.1	.95	.54	28	1.4	7.0	11	12	.95	.55	1.7
21	.29	1.7	.75	.60	17	1.3	5.7	5.4	5.7	1.2	.43	1.3
22	.27	1.4	.60	.67	15	1.2	4.5	4.0	7.6	1.2	.32	1.1
23	.27	1.4	.72	.67	15	1.3	5.5	3.2	3.3	.59	.22	1.1
24	.26	23	1.0	.63	11	1.5	8.9	2.7	2.4	1.0	.21	.89
25	.70	11	.97	.73	6.0	1.9	7.0	2.0	2.2	.96	.18	.78
26	3.4	4.6	.83	2.0	4.5	5.0	5.6	1.6	2.2	.62	.15	.70
27	2.0	3.7	.83	3.2	3.3	22	7.7	1.5	1.7	.96	.12	.67
28	2.3	3.5	.93	1.8	7.0	9.5	6.0	5.0	1.4	8.0	.11	.67
29	2.9	2.7	1.2	1.3	---	11	5.2	10	1.2	7.8	.10	.66
30	2.0	2.1	1.3	.90	---	14	6.5	9.0	1.1	2.4	.08	.63
31	1.5	---	1.1	.95	---	10	---	12	---	1.3	.17	---
TOTAL	23.47	95.33	90.58	28.50	266.8	151.0	202.9	185.2	277.5	42.15	25.91	112.04
MEAN	.76	3.18	2.92	.92	9.53	4.87	6.76	5.97	9.25	1.36	.84	3.73
MAX	3.4	23	10	3.2	28	22	25	22	46	8.0	4.5	19
MIN	.24	.61	.60	.50	1.4	1.2	2.3	1.5	1.1	.15	.08	.63
CFSM	.59	2.45	2.25	.71	7.33	3.75	5.20	4.59	7.12	1.05	.65	2.87
IN†	.67	2.73	2.59	.81	7.63	4.32	5.80	5.30	7.93	1.21	.74	3.20
IN#	3.99	4.91	2.94	.84	5.46	2.89	7.55	7.52	11.30	4.57	2.81	6.75

WTR YR 1981 TOTAL 1501.38 MEAN 4.11 MAX 46 MIN .08 CFSM 3.16 IN† 42.93 IN# 61.53

† Runoff.

Rainfall.

MONONGAHELA RIVER BASIN

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03066730 WEST FORK BIG RUN NEAR DOUGLAS, WV

LOCATION.--Lat 39°06'55", long 79°34'47", Tucker County, Hydrologic Unit 05020004, on left bank, 3.5 mi (8.8 km) west-southwest of Douglas, and at mile 0.4 (0.6 km).

DRAINAGE AREA.--0.85 mi² (2.20 km²).

PERIOD OF RECORD.--September 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 3,205 ft (977 m), from topographic map.

REMARKS.--Records good except those prior to Feb. 15, which are poor. Discharge and rainfall records collected at site for September 1980 are contained in files of U.S. Geological Survey. Monthly rainfall totals only are published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123 ft³/s (3.48 m³/s) June 6, 1981, gage height, 3.59 ft (1.094 m), from rating curve extended above 10 ft³/s (0.28 m³/s) on basis of runoff comparisons with nearby stations; minimum, 0.07 ft³/s (0.002 m³/s) Aug. 30, 1981, gage height, 1.27 ft (0.387 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 25 ft³/s (0.71 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	2030	47 1.33	2.98 0.908	June 4	2315	75 2.12	3.26 0.994
Feb. 28	2230	34 0.96	2.80 0.853	June 6	0015	*123 3.48	3.59 1.094
Apr. 11	1230	44 1.25	2.94 0.896	June 14	1400	38 1.08	2.86 0.872

Minimum discharge, 0.07 ft³/s (0.002 m³/s) Aug. 30, gage height, 1.27 ft (0.387 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	1.0	3.5	.74	.78	14	8.1	11	6.9	.67	.56	.46
2	.28	.76	6.0	.70	5.2	5.9	6.7	8.2	7.6	.67	.45	8.1
3	.33	.63	9.3	.66	4.4	4.2	4.3	5.6	5.5	.52	.62	3.7
4	.30	.63	3.6	.63	3.3	3.3	3.3	4.5	17	.43	.51	11
5	.32	1.2	3.5	.60	1.9	4.0	4.5	3.4	23	.86	.42	5.4
6	.29	.81	4.2	.63	1.5	3.3	3.6	3.7	48	1.1	1.1	2.2
7	.26	.69	5.6	.65	1.4	2.4	2.6	3.8	14	.52	.99	1.4
8	.26	.64	5.0	.62	1.2	1.9	2.1	2.3	6.4	.40	.88	6.1
9	.32	1.0	8.9	.59	1.1	1.6	2.8	1.6	4.9	.35	.55	4.8
10	.48	1.2	10	.57	1.0	1.5	3.9	1.4	13	.31	.40	1.9
11	.70	.76	5.1	.54	5.7	1.4	17	3.0	7.5	.25	.37	1.3
12	.58	.67	4.0	.51	8.4	1.3	10	5.3	4.2	.24	.66	1.0
13	.46	.64	3.0	.52	4.5	1.7	9.3	3.7	3.2	.38	.41	.82
14	.34	.64	2.5	.51	2.2	1.8	7.8	2.6	17	.47	.32	.69
15	.30	.58	2.1	.50	1.9	1.5	7.5	8.4	7.8	.33	.35	5.2
16	.29	1.9	1.7	.48	2.3	1.9	5.3	7.2	4.3	.27	4.2	9.6
17	.23	4.3	1.4	.46	6.2	1.5	7.2	5.5	3.8	.24	1.0	4.8
18	.23	11	1.2	.44	11	1.3	10	5.1	2.4	.19	.57	2.7
19	.24	5.4	1.0	.39	13	1.2	6.4	15	1.5	.19	.40	2.7
20	.24	2.5	.80	.45	24	1.1	6.9	9.9	5.9	.46	.31	2.1
21	.23	1.4	.68	.47	17	1.1	5.1	6.3	4.0	.60	.24	1.5
22	.22	1.1	.54	.48	13	.98	4.2	4.8	5.1	.77	.20	1.2
23	.22	1.1	.68	.49	13	1.1	5.7	3.8	2.5	.39	.16	1.1
24	.21	21	.80	.47	8.2	1.2	8.4	2.8	1.5	.51	.15	.93
25	.60	11	.70	.50	5.2	1.4	6.2	1.8	1.2	.49	.14	.77
26	2.7	5.0	.58	.87	3.9	1.9	5.4	1.4	1.1	.42	.13	.67
27	2.0	2.8	.61	1.6	3.2	15	7.4	1.2	.78	.79	.12	.63
28	1.6	2.6	.65	1.3	9.9	8.9	5.4	3.4	.62	4.4	.11	.63
29	2.3	2.5	.78	1.0	---	9.9	5.2	11	.50	6.4	.10	.55
30	1.8	2.1	.88	.71	---	12	5.5	7.9	.51	2.1	.08	.49
31	1.4	---	.79	.74	---	8.7	---	11	---	.81	.10	---
TOTAL	19.94	87.55	90.09	19.82	174.38	118.98	187.8	166.6	221.71	26.53	16.60	84.44
MEAN	.64	2.92	2.91	.64	6.23	3.84	6.26	5.37	7.39	.86	.54	2.81
MAX	2.7	21	10	1.6	24	15	17	15	48	6.4	4.2	11
MIN	.21	.58	.54	.39	.78	.98	2.1	1.2	.50	.19	.08	.46
CFSM	.75	3.44	3.42	.75	7.33	4.52	7.37	6.32	8.69	1.01	.64	3.31
IN.†	.87	3.83	3.94	.87	7.62	5.20	8.21	7.28	9.69	1.16	.73	3.69
IN.‡	3.97	4.78	3.08	.92	5.92	3.19	7.22	5.02	11.20	4.61	2.70	5.32

WTR YR 1981 TOTAL 1214.44 MEAN 3.33 MAX 48 MIN .08 CFSM 3.92 IN† 53.09 IN‡ 57.93

† Runoff.
‡ Rainfall.

MONONGAHELA RIVER BASIN

03068610 TAYLOR RUN AT BOWDEN, WV

LOCATION.--Lat 38°54'27", long 79°41'49", Randolph County, Hydrologic Unit 05020004, on upstream side of left abutment of bridge on U.S. Highway 33, 450 ft (137 m) upstream from mouth, and 0.7 mi (1.1 km) east of Bowden.

DRAINAGE AREA.--5.06 mi² (13.11 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,240 ft (683 m), from topographic map.

REMARKS.--Water-discharge records good except those for Dec. 21 to Feb, 16, which are poor.

AVERAGE DISCHARGE.--8 years, 15.4 ft³/s (0.436 m³/s), 41.33 in/yr (1050 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 382 ft³/s (10.8 m³/s) June 8, 1974, gage height, 6.91 ft (2.106 m), from rating curve extended above 150 ft³/s (4.2 m³/s); minimum, 0.31 ft³/s (0.009 m³/s) Aug. 30, 1981; minimum gage height, 3.72 ft (1.134 m) Aug. 9, 10, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	2200	*173 4.90	5.73 1.747	Mar. 27	0800	171 4.84	5.72 1.743

Minimum discharge, 0.31 ft³/s (0.009 m³/s) Aug. 30, gage height, 3.80 ft (1.158 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	9.4	18	6.8	6.8	55	28	25	25	12	2.3	.85
2	3.8	8.0	28	6.1	30	34	24	27	26	9.1	2.4	4.1
3	3.8	6.8	32	5.5	16	26	20	22	23	7.4	5.8	9.1
4	4.0	6.8	23	4.3	12	20	17	18	44	6.1	3.4	9.4
5	3.4	6.5	19	3.8	9.3	23	27	15	47	13	2.4	4.5
6	2.7	5.2	18	3.6	7.9	20	26	13	112	11	9.8	2.6
7	2.6	4.7	18	4.1	7.2	15	21	11	68	8.4	7.1	1.8
8	2.4	4.5	17	3.9	6.2	12	18	9.0	37	6.8	6.8	20
9	2.3	9.8	26	3.7	5.3	10	19	7.8	34	5.5	4.3	10
10	2.9	10	34	3.4	5.9	9.1	18	7.2	61	5.2	3.4	4.9
11	2.9	7.4	26	3.2	38	8.4	16	9.7	42	4.3	2.9	3.4
12	2.3	6.1	21	3.0	26	8.0	15	12	28	3.6	4.5	2.8
13	2.1	5.5	17	2.9	19	10	14	10	20	3.4	2.9	2.3
14	1.8	4.9	13	3.2	15	10	14	9.5	45	3.4	2.4	1.8
15	1.8	4.7	11	3.2	13	9.8	13	44	35	2.7	2.3	23
16	1.7	4.9	9.8	2.9	12	11	12	33	22	2.3	3.8	27
17	1.5	23	8.0	2.7	31	9.4	32	27	16	2.3	2.4	14
18	2.3	50	7.4	2.6	47	8.1	46	26	12	1.8	1.8	9.0
19	2.6	25	6.8	2.5	53	7.1	32	67	12	1.5	1.3	7.7
20	2.0	18	4.1	2.7	100	6.6	32	62	27	1.8	1.2	5.5
21	1.8	14	3.2	3.4	106	6.2	24	37	26	2.0	1.0	4.3
22	1.8	11	3.8	3.8	66	5.7	20	26	35	2.3	.92	3.6
23	1.5	9.8	4.5	3.6	64	7.7	19	19	24	1.4	.77	3.6
24	1.7	64	6.5	3.2	50	10	22	14	17	3.8	.70	2.8
25	19	52	4.5	3.5	33	13	28	11	25	3.0	.65	2.6
26	10	31	3.8	9.2	25	17	23	9.1	31	2.1	.60	2.3
27	6.8	24	4.1	16	20	85	20	7.8	19	2.9	.55	2.0
28	20	21	4.3	12	35	52	16	12	14	4.7	.45	2.0
29	24	17	7.1	7.5	---	38	17	13	10	13	.41	1.7
30	15	13	8.0	5.6	---	36	16	16	13	5.2	.34	1.5
31	12	---	7.4	4.7	---	28	---	30	---	3.0	.41	---
TOTAL	166.5	478.0	414.3	146.6	859.6	611.1	649	650.1	950	155.0	80.00	190.15
MEAN	5.37	15.9	13.4	4.73	30.7	19.7	21.6	21.0	31.7	5.00	2.58	6.34
MAX	24	64	34	16	106	85	46	67	112	13	9.8	27
MIN	1.5	4.5	3.2	2.5	5.3	5.7	12	7.2	10	1.4	.34	.85
CFSM	1.06	3.14	2.65	.94	6.07	3.89	4.27	4.15	6.27	.99	.51	1.25
IN.	1.22	3.51	3.05	1.08	6.32	4.49	4.77	4.78	6.98	1.14	.59	1.40

CAL YR 1980	TOTAL	5740.30	MEAN	15.7	MAX	147	MIN	1.0	CFSM	3.10	IN	42.19
WTR YR 1981	TOTAL	5350.35	MEAN	14.7	MAX	112	MIN	.34	CFSM	2.91	IN	39.33

MONONGAHELA RIVER BASIN

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03068610 TAYLOR RUN AT BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1975 to September 1980 (discontinued).

WATER TEMPERATURES: June 1975 to May 1979 (discontinued).

TURBIDITY: June 1975 to September 1980 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: October 1974 to September 1980 (discontinued).

INSTRUMENTATION.--Automatic sediment-pumping sampler since Dec. 17, 1980.

REMARKS.--Samples are collected by automatic sampler at 5.0 ft (1.524 m) gage height and above.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--A specific conductance of 175 micromhos was observed Oct. 16, 1974. A water temperature of 20°C was observed Aug. 31, Sept. 4, 1973, July 30, 1974 and Aug. 8, 1979. A turbidity of 100 NTU was observed June 25, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)
OCT 23...	1230	1.5	100	7.4	14.0
DEC 04...	1235	23	55	7.1	3.0
JAN 01...	1400	3.3	90	7.0	2.0
MAR 03...	1245	8.2	70	6.9	2.0
MAY 07...	1315	11	52	6.7	12.0
JULY 01...	1400	11	57	6.5	13.5

MONONGAHELA RIVER BASIN

03068610 TAYLOR RUN AT BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW INSTAN- TAN- EOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TUR- BID- ITY (NTU)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	TIME	STREAM- FLOW INSTAN- TAN- EOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TUR- BID- ITY (NTU)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
FEB							MAY						
21...	1415	99	60	8.0	35	9.4	15...	0730	68	62	19	70	13
21...	1430	98	58	4.2	28	7.4	15...	0745	68	62	19	27	5.0
21...	1445	94	59	6.2	25	6.3	15...	0800	66	62	16	52	9.3
21...	1500	96	58	3.5	26	6.7	15...	0815	64	61	14	47	8.1
21...	1515	93	59	4.7	28	7.0	15...	0830	63	61	12	41	7.0
21...	1530	96	58	3.1	24	6.2	19...	1315	66	55	15	65	12
21...	1545	94	58	3.0	27	6.9	19...	1330	70	55	23	119	22
21...	1600	94	58	3.2	23	5.8	19...	1345	75	55	23	163	33
21...	1615	92	59	4.6	28	7.0	19...	1400	80	55	35	350	76
21...	1630	94	58	2.9	18	4.6	19...	1415	82	55	32	231	51
21...	1645	93	58	3.5	20	5.0	19...	1430	84	55	36	242	55
21...	1700	92	58	3.5	24	6.0	19...	1445	87	56	45	257	60
21...	1715	93	58	3.0	18	4.5	19...	1500	87	55	32	216	51
21...	1730	90	59	5.3	19	4.6	19...	1515	90	55	35	235	57
21...	1745	92	58	3.5	21	5.2	19...	1530	90	55	34	172	42
21...	1800	88	58	4.5	20	4.8	19...	1545	92	54	26	173	43
21...	1815	90	77	2.0	10	2.4	19...	1600	92	54	23	231	57
21...	1830	86	58	4.0	22	5.1	JUN						
21...	1845	86	57	1.9	23	5.3	10...	0500	66	67	55	181	32
21...	1900	87	57	5.0	19	4.5	10...	0515	80	55	60	276	60
21...	1915	88	58	5.0	25	5.9	10...	0530	93	54	70	374	94
21...	1930	88	57	4.0	20	4.8	10...	0545	96	55	80	386	100
21...	1945	87	57	3.5	14	3.3	10...	0600	98	54	60	303	80
21...	2000	86	58	4.5	21	4.9	10...	0615	99	57	50	213	57
23...	1620	78	71	5.9	19	4.0	10...	0630	99	54	50	171	46
MAR							10...	0645	98	53	28	133	35
27...	0530	69	90	24	88	16	10...	0700	94	52	24	94	24
27...	0545	82	92	29	106	23	10...	0715	93	52	24	78	20
27...	0600	93	89	29	105	26	10...	0730	92	51	18	51	13
27...	0615	108	85	29	103	30	10...	0745	90	52	16	55	13
27...	0630	114	88	19	93	29	10...	0800	87	51	16	55	13
27...	0645	124	78	23	73	24	10...	0815	86	51	14	52	12
27...	0700	135	75	15	93	34	10...	0830	84	51	15	51	12
27...	0715	146	72	17	65	26	10...	0845	81	50	15	50	11
27...	0730	162	72	18	79	35	10...	0900	80	51	13	39	8.4
27...	0745	165	75	17	104	46	10...	0915	80	52	7.6	40	8.6
27...	0800	171	69	19	86	40	10...	0930	78	51	11	35	7.4
27...	0815	148	67	19	98	39	10...	1000	75	51	11	24	4.9
27...	0830	148	68	16	98	39	10...	1015	75	50	10	33	6.7
27...	0845	141	66	19	107	41	10...	1030	74	56	10	33	6.6
MAR							25...	1930	63	62	100	765	130
27...	0900	136	66	11	76	28	25...	1945	68	63	100	930	171
27...	0915	130	65	10	65	23	25...	2000	72	62	95	610	119
27...	0930	130	64	14	75	26	25...	2015	75	60	85	481	97
27...	0945	128	63	7.1	39	13	25...	2030	88	59	75	334	79
27...	1000	124	63	11	45	15	25...	2045	86	57	55	237	55
27...	1015	122	64	11	41	14	25...	2100	82	56	45	196	43
27...	1030	123	63	9.0	41	14	25...	2115	78	54	34	129	27
27...	1045	118	67	12	26	8.3	25...	2130	75	54	28	122	25
27...	1100	116	61	5.1	28	8.8	25...	2145	72	54	25	106	21
APR							25...	2200	69	54	22	105	20
18...	0415	63	59	15	63	11	25...	2215	66	54	18	72	13
18...	0430	63	61	12	50	8.5	25...	2230	63	54	17	69	12
18...	0445	63	60	11	62	11	SEP						
MAY							08...	1415	76	75	85	690	142
15...	0545	64	67	24	74	13	08...	1430	78	71	85	865	182
15...	0600	66	64	25	107	19	08...	1445	80	67	85	520	112
15...	0615	68	64	19	123	23	08...	1500	75	68	55	386	78
15...	0630	69	63	27	123	23	08...	1515	72	64	60	291	57
15...	0645	69	62	18	100	19	08...	1530	70	62	50	235	44
15...	0700	69	62	26	111	21	08...	1545	66	61	45	192	34
15...	0715	69	62	22	92	17							

MONONGAHELA RIVER BASIN

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03068690 NORTH SPRING AT BOWDEN, WV

LOCATION.--Lat 38°54'43", long 79°42'16", Randolph County, Hydrologic Unit 05020004, 100 ft (30 m) landward from right bank of Shavers Fork, 250 ft (76 m) upstream from bridge on State Secondary Route 5/12, and 0.4 mi (0.6 km) east of Bowden.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1956-58 (discharge measurements only, published as "Cold Spring, Northbank"), June 1975 to September 1981 (discontinued).

GAGE.--(Base gage) Water-stage recorder, with 16-inch pipe spring box overflow and 16-inch inlet pipe to Bowden National Fish Hatchery as control. Datum of gage is 2201.99 ft (671.167 m) National Geodetic Vertical Datum of 1929. Supplementary water-stage recorder No. 1 and sharp-crested weir in water tower at fish hatchery at datum 2,200.06 ft (670.578 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1975, nonrecording gage at same site and datum. Supplementary water-stage recorder No. 2 and sharp-crested weir in collecting trough in fish hatchery building since Oct. 10, 1975, at datum 2,193.32 ft (668.524 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--6 years, 3.33 ft³/s (0.094 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 6.7 ft³/s (0.19 m³/s) Oct. 9, 1976, gage height, 9.00 ft (2.743 m) Oct 9, 1976, from floodmark, backwater from Shavers Fork over springbox; minimum daily discharge, 1.8 ft³/s (0.051 m³/s) Jan. 7-11, 1977; minimum gage height, 1.10 ft (0.335 m) Aug. 25-27, 1981, when water tower valve was open.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5.4 ft³/s (0.15 m³/s) Feb. 21; maximum gage height, 7.03 ft (2.143 m) June 6, backwater from Shavers Fork over springbox; minimum daily discharge, 2.4 ft³/s (0.068 m³/s) Aug. 22-27; minimum gage height, 1.10 ft (0.335 m) Aug. 25-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	3.3	3.6	3.0	3.0	4.3	4.0	4.0	4.1	3.4	3.1	2.5
2	2.9	3.2	3.6	2.9	3.5	4.2	4.0	4.3	4.1	3.4	3.0	2.6
3	2.9	3.1	3.8	3.0	3.4	4.1	3.9	4.2	4.0	3.4	2.9	2.7
4	2.9	3.0	3.7	3.0	3.2	4.0	3.9	4.1	4.3	3.3	3.0	2.8
5	2.8	3.0	3.6	3.2	3.1	4.0	4.0	4.0	4.5	3.3	3.0	2.8
6	2.8	2.9	3.5	2.9	3.1	4.0	4.1	4.0	5.3	3.4	3.1	2.8
7	2.8	2.9	3.5	2.9	3.0	3.8	4.0	3.8	5.0	3.4	3.2	2.8
8	2.8	2.9	3.6	2.9	3.0	3.8	3.9	3.7	4.5	3.4	3.3	2.8
9	2.8	2.9	3.7	2.9	3.0	3.7	3.8	3.6	4.4	3.3	3.2	3.0
10	2.8	2.9	3.9	2.9	3.0	3.7	3.9	3.6	4.7	3.3	3.2	2.8
11	2.9	2.9	3.8	2.9	3.3	3.6	3.8	3.6	4.9	3.3	3.1	2.8
12	2.8	2.9	3.7	2.9	3.7	3.4	3.8	3.7	4.4	3.3	3.0	2.8
13	2.8	2.9	3.7	2.8	3.6	3.3	3.8	3.7	4.2	3.2	3.0	2.7
14	2.8	2.9	3.5	2.8	3.5	3.3	3.8	3.7	4.4	3.2	2.9	2.7
15	2.8	2.9	3.3	2.8	3.4	3.3	3.8	4.4	4.6	3.2	2.8	2.8
16	2.8	2.9	3.3	2.9	3.4	3.3	3.8	4.4	4.4	3.1	2.8	3.1
17	2.8	2.9	3.2	2.8	3.5	3.3	3.9	4.3	3.8	3.0	2.9	3.0
18	2.8	3.8	3.1	2.8	3.8	3.3	4.3	4.2	3.5	3.0	2.8	2.9
19	2.8	3.7	3.0	2.8	4.0	3.3	4.2	4.7	3.4	3.0	2.5	2.8
20	2.8	3.6	2.9	2.8	4.7	3.3	4.1	4.9	3.5	2.9	2.6	2.8
21	2.8	3.6	2.8	2.8	5.4	3.3	4.0	4.5	3.7	3.0	2.5	2.7
22	2.8	3.6	2.8	2.9	4.6	3.2	4.0	4.3	3.9	3.0	2.4	2.7
23	2.8	3.5	2.9	2.9	5.0	3.2	3.9	4.1	3.9	3.0	2.4	2.7
24	2.8	4.3	2.9	2.9	4.5	3.3	3.9	4.0	3.9	3.0	2.4	2.6
25	2.8	4.3	2.9	2.9	4.1	3.5	4.1	4.0	3.9	2.9	2.4	2.6
26	2.9	4.0	2.8	3.0	3.9	3.6	4.0	3.8	3.9	3.0	2.4	2.6
27	3.0	3.7	2.9	3.4	3.9	4.1	3.9	3.7	3.7	3.0	2.4	2.6
28	3.0	3.7	2.9	3.3	4.0	4.3	3.9	3.7	3.6	3.1	2.5	2.6
29	3.2	3.7	3.0	3.2	---	4.1	4.0	3.9	3.5	3.2	2.5	2.5
30	3.4	3.7	3.0	3.0	---	4.6	4.0	3.9	3.4	3.3	2.5	2.5
31	3.2	---	3.0	3.0	---	4.4	---	4.1	---	3.2	2.5	---
TOTAL	89.2	99.6	101.9	91.2	103.6	114.6	118.5	124.9	123.4	98.5	86.3	82.1
MEAN	2.88	3.32	3.29	2.94	3.70	3.70	3.95	4.03	4.11	3.18	2.78	2.74
MAX	3.4	4.3	3.9	3.4	5.4	4.6	4.3	4.9	5.3	3.4	3.3	3.1
MIN	2.8	2.9	2.8	2.8	3.0	3.2	3.8	3.6	3.4	2.9	2.4	2.5
CAL YR 1980	TOTAL	1243.8	MEAN	3.40	MAX	4.8	MIN	2.6				
WTR YR 1981	TOTAL	1233.8	MEAN	3.38	MAX	5.4	MIN	2.4				

MONONGAHELA RIVER BASIN
03068690 NORTH SPRING AT BOWDEN, WV--Continued
WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1976 to September 1981 (discontinued).

TURBIDITY: June 1975 to September 1980 (discontinued).

INSTRUMENTATION.--Temperature recorder since October 29, 1976. Automatic pumping turbidity sampler.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 11.5°C Sept. 2-20, 1977; minimum, 8.0°C on many days.

TURBIDITY: Maximum, not determined; minimum, 1 NTU on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 11.0°C Nov. 6-22, Dec. 25, 26, Jan. 5, may have been higher during period of missing record; minimum, 8.0°C Mar. 28 to Apr. 5.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX OCTOBER	MIN OCTOBER	MAX NOVEMBER	MIN NOVEMBER	MAX DECEMBER	MIN DECEMBER	MAX JANUARY	MIN JANUARY	MAX FEBRUARY	MIN FEBRUARY	MAX MARCH	MIN MARCH
1			---	---	10.5	10.5	10.5	10.5	10.0	10.0	9.0	9.0
2			---	---	10.5	10.5	10.5	10.5	10.0	9.5	9.0	9.0
3			---	---	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0
4			---	---	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0
5			---	---	10.5	10.5	11.0	10.5	9.5	9.5	9.0	9.0
6			---	---	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0
7			11.0	11.0	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0
8			11.0	11.0	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0
9			11.0	11.0	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0
10			11.0	11.0	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0
11			11.0	11.0	10.5	10.5	10.5	10.5	9.5	9.0	9.0	9.0
12			11.0	11.0	10.5	10.5	10.5	10.5	10.5	9.5	9.0	9.0
13			11.0	11.0	10.5	10.5	10.5	10.5	9.5	9.5	9.0	8.5
14			11.0	11.0	10.5	10.5	10.5	10.0	9.5	9.5	8.5	8.5
15			11.0	11.0	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
16			11.0	11.0	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
17			11.0	11.0	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
18			11.0	11.0	10.5	10.5	10.0	10.0	9.5	9.0	8.5	8.5
19			11.0	11.0	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.5
20			11.0	11.0	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.5
21			11.0	11.0	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.5
22			11.0	10.5	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.5
23			10.5	10.5	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.5
24			10.5	10.5	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.5
25			10.5	10.5	11.0	10.5	10.0	10.0	9.0	9.0	8.5	8.5
26			10.5	10.5	11.0	10.5	10.0	10.0	9.0	9.0	8.5	8.5
27			10.5	10.5	10.5	10.5	10.0	9.5	9.0	9.0	8.5	8.5
28			10.5	10.5	10.5	10.5	10.0	9.5	9.0	9.0	8.5	8.0
29			10.5	10.5	10.5	10.5	10.0	10.0	---	---	8.0	8.0
30			10.5	10.5	10.5	10.5	10.0	10.0	---	---	8.0	8.0
31			---	---	10.5	10.5	10.0	10.0	---	---	8.0	8.0
MONTH			11.0	10.5	11.0	10.5	11.0	9.5	10.5	9.0	9.0	8.0

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	8.0	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
2	8.0	8.0	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
3	8.0	8.0	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.5	10.5
4	8.0	8.0	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.5	10.5
5	8.5	8.0	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.5	10.5
6	8.5	8.5	8.5	8.5	9.5	9.0	10.0	10.0	10.0	10.0	10.5	10.5
7	8.5	8.5	9.0	8.5	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
8	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
9	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
10	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
11	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
12	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
13	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
14	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
15	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.5	10.5
16	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.0	10.0	10.0	10.0
17	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
18	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
19	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
20	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
21	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
22	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
23	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
24	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
25	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
26	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
27	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
28	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
29	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
30	8.5	8.5	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
31	---	---	9.0	9.0	---	---	10.0	10.0	10.0	10.0	---	---
MONTH YEAR	8.5 11.0	8.0 8.0	9.0	8.5	10.0	9.0	10.0	10.0	10.0	10.0	10.5	10.0

MONONGAHELA RIVER BASIN

03068800 SHAVERS FORK BELOW BOWDEN, WV

LOCATION.--Lat 38°54'47", long 79°46'14", Randolph County, Hydrologic Unit 05020004, on upstream side of right pier, on U.S. Highway 33 bridge, 3.0 mi (4.8 km) west of Bowden, and at mile 26.4 (42.5 km).

DRAINAGE AREA.--151 mi² (391 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1973 to September 1981 (discontinued). Once daily wire-weight gage readings at same site November 1971 to August 1973 are contained in files of Bowden National Fish Hatchery.

GAGE.--Water-stage recorder. Altitude of gage is 2,120 ft (646 m), from topographic map.

REMARKS.--Water-discharge records fair except those for Dec. 19 to Mar. 23, which are poor.

AVERAGE DISCHARGE.--8 years, 436 ft³/s (12.35 m³/s), 39.21 in/yr (996 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft³/s (490 m³/s) Dec. 26, 1973, gage height, 11.47 ft (3.496 m), from floodmark, from rating curve extended above 4,100 ft³/s (120 m³/s); minimum, 18 ft³/s (0.51 m³/s) Sept. 9, 1976, gage height, 3.74 ft (1.140 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,600 ft³/s (100 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	2200	4420 125	8.54 2.603	June 6	1400	*7670 217	9.82 2.993
Feb. 23	1800	4060 115	8.36 2.548	June 10	1000	5390 153	9.02 2.749

Minimum discharge, 22 ft³/s (0.62 m³/s) Aug. 30, 31, gage height, 3.77 ft (1.149 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	200	304	170	130	1500	1640	533	721	371	147	49
2	57	165	421	150	700	796	1490	776	658	548	117	227
3	57	140	1010	130	430	542	936	540	607	380	120	168
4	63	127	548	110	290	425	735	430	1370	326	150	353
5	72	130	435	100	220	425	1010	362	1740	322	150	608
6	69	130	403	93	190	520	1050	318	3670	738	208	233
7	60	115	460	110	160	340	641	339	1940	490	445	136
8	52	104	515	99	140	290	513	293	985	362	335	216
9	48	106	480	91	120	250	480	245	724	299	227	404
10	46	185	828	84	150	220	682	214	2460	263	174	234
11	48	184	602	80	823	200	511	260	1810	255	150	147
12	48	140	445	77	1000	190	456	780	884	208	138	106
13	51	117	376	72	450	197	492	517	602	177	135	84
14	44	112	317	82	360	223	475	397	662	168	120	70
15	41	104	267	81	300	190	875	633	505	153	97	161
16	37	100	243	68	270	219	547	672	385	132	117	502
17	35	142	219	63	455	187	587	553	322	120	162	349
18	36	869	183	59	796	171	1140	471	279	110	107	213
19	46	592	170	58	1440	160	777	1620	239	91	77	168
20	49	365	126	63	2730	150	729	2020	940	83	63	147
21	45	295	90	71	2530	140	710	1080	656	141	52	123
22	41	251	72	76	1650	130	522	680	560	132	48	100
23	36	215	110	78	2760	150	448	509	554	110	41	88
24	33	1290	160	70	1730	168	464	408	398	95	33	78
25	123	1640	120	98	884	194	497	338	358	150	31	69
26	418	745	91	190	596	204	463	285	626	171	30	63
27	218	515	100	330	460	985	415	259	416	150	29	57
28	210	450	120	260	495	1050	362	1240	308	147	26	53
29	569	398	150	170	---	958	328	1460	255	349	25	46
30	362	322	180	130	---	2360	357	673	239	358	23	43
31	255	---	200	110	---	2060	---	1010	---	204	28	---
TOTAL	3333	10248	9745	3423	22259	15594	20332	19915	25873	7603	3605	5295
MEAN	108	342	314	110	795	503	678	642	862	245	116	177
MAX	569	1640	1010	330	2760	2360	1640	2020	3670	738	445	608
MIN	33	100	72	58	120	130	328	214	239	83	23	43
CFSM	.72	2.27	2.08	.73	5.27	3.33	4.49	4.25	5.71	1.62	.77	1.17
IN.	.82	2.52	2.40	.84	5.48	3.84	5.01	4.91	6.37	1.87	.89	1.30

CAL YR 1980	TOTAL	148852	MEAN 407	MAX 3420	MIN 33	CFSM 2.70	IN 36.67
WTR YR 1981	TOTAL	147225	MEAN 403	MAX 3670	MIN 23	CFSM 2.67	IN 36.27

MONONGAHELA RIVER BASIN

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03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1975 to September 1981 (discontinued).

WATER TEMPERATURES: June 1975 to May 1979 (discontinued).

TURBIDITY: June 1975 to September 1981 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: June 1975 to September 1981 (discontinued).

REMARKS.--Sediment samples taken daily and more frequently during rises.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 156 micromhos Mar. 31, 1976; minimum daily, 24 micromhos Mar. 5, 1979.
WATER TEMPERATURES: Maximum daily, 26.0°C June 23, July 31, Aug. 26, 1975; minimum daily, 0.0°C on many days during winter months.

TURBIDITY: Maximum daily, 140 NTU Aug. 15, 1975; minimum daily, 0.1 NTU Dec. 5, 1979 (minimum previously determined to nearest 1 JTU).

SEDIMENT CONCENTRATIONS: Maximum daily mean, 721 mg/L Mar. 13, 1977; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 16,300 tons (14,800 tonnes) Mar. 13, 1977; minimum daily, 0 tons (0 tonnes) on many days.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--A specific conductance of 418 micromhos was observed Feb. 13, 1974. A water temperature of 25.0°C was observed Aug. 30, 31, 1973, Aug. 1, 1974. A turbidity of 45 NTU was observed Mar. 19, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 89 micromhos Apr. 30; minimum daily, 36 micromhos on several days from Jan. to Apr.

TURBIDITY: Maximum daily, 45 NTU Apr. 15, June 10; minimum daily, 0.4 NTU May 6.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 293 mg/L June 6; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 4,130 tons (3,750 tonnes) June 6; minimum daily, 0 tons (0 tonnes) Oct. 7, 8, Mar. 23, 25, Sept. 28, 29, 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT										
22...	1630	41	55	8.5	13.0	--	--	--	--	--
NOV										
06...	1500	129	50	7.1	8.5	--	--	--	.0	--
DEC										
04...	1600	501	48	7.1	3.0	11.6	--	--	.0	--
FEB										
06...	1400	190	55	7.2	4.0	--	22	12	.0	6.7
MAR										
12...	1500	187	47	7.1	4.0	13.6	16	8	.0	4.6
MAY										
08...	1030	295	42	7.2	12.0	5.8	15	8	.0	4.2
20...	1630	1930	48	6.5	12.0	--	--	--	--	--
29...	1200	1340	42	7.0	12.0	--	--	--	--	--
JUN										
09...	1800	752	45	6.7	20.0	--	--	--	--	--
17...	1300	271	45	7.0	20.0	--	--	--	--	--
JUL										
01...	1000	319	55	7.3	16.5	--	19	--	.0	5.8
22...	1320	105	49	6.0	20.5	--	17	--	.0	5.2
AUG										
26...	1500	30	70	7.0	24.0	--	26	--	.0	8.6

MONONGAHELA RIVER BASIN

03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CAC3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT									
22...	--	--	--	--	--	--	--	--	--
NOV									
06...	--	--	--	--	--	13	--	--	--
DEC									
04...	--	--	--	--	--	7	--	--	--
FEB									
06...	1.3	1.3	--	.1	--	12	7.7	2.3	--
MAR									
12...	1.0	.8	--	.1	--	10	8.1	1.3	--
MAY									
08...	.9	1.0	--	.2	--	8	6.0	1.4	--
20...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
JUN									
09...	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--
JUL									
01...	1.1	1.0	--	.1	--	12	7.2	.9	--
22...	1.0	.9	10	.1	.5	10	7.0	.8	<.1
AUG									
26...	1.2	.4	--	.0	--	20	7.0	1.2	--

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NC2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
FEB											
06...	3.8	46	35	.06	--	<.010	.03	--	1.2	.160	--
MAR											
12...	--	33	--	.04	16.7	--	--	--	--	--	--
MAY											
08...	3.2	34	23	.05	27.1	<.010	--	--	.58	.040	--
JUL											
01...	--	34	--	.05	29.3	--	--	--	--	--	--
22...	2.9	56	26	.08	15.9	--	--	.11	--	--	<.010
AUG											
26...	2.9	50	--	.07	4.0	<.010	--	--	.30	<.010	--

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)
FEB										
06...	<.010	.03	--	--	--	50	<1	--	6	--
MAR										
12...	--	--	--	--	--	--	--	--	--	--
MAY										
08...	<.010	--	--	--	--	40	<1	--	1	--
JUL										
01...	--	--	--	--	--	--	--	--	--	--
22...	--	--	1	8	<50	--	--	3	--	<1
AUG										
26...	<.010	--	--	--	--	30	1	--	1	--

MONONGAHELA RIVER BASIN

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03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOVERED FM BOTTOM MATERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOVERED FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOVERED FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOVERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 06...	--	--	3	--	--	<10	--	130	110	20
MAR 12...	--	--	--	--	--	--	--	200	170	30
MAY 08...	--	--	<3	--	--	<10	--	130	100	29
JUL 01...	--	--	--	--	--	--	--	320	310	10
22...	20	<10	--	10	4	--	20	180	150	30
AUG 26...	--	--	3	--	--	10	--	200	150	51

DATE	IRON, RECOVERED FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOVERED FM BOTTOM MATERIAL (UG/G AS PB)	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUS- PENDED RECOVERABLE (UG/L AS MN)	MANGANESE, DIS- SOLVED (UG/L AS MN)	MANGANESE, RECOVERED FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOVERED FM BOTTOM MATERIAL (UG/G AS HG)
FEB 06...	--	--	29	--	<4	10	0	10	--	--	--
MAR 12...	--	--	--	--	--	30	0	30	--	--	--
MAY 08...	--	--	<10	--	<4	10	0	12	--	--	--
JUL 01...	--	--	--	--	--	20	20	5	--	--	--
22...	11000	1	--	30	--	10	0	10	660	<.1	<.01
AUG 26...	--	--	10	--	4	30	9	21	--	--	--

DATE	MOLYBDENUM, DIS- SOLVED (UG/L AS MO)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, IN BOTTOM MATERIAL (UG/G)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	STRONTIUM, DIS- SOLVED (UG/L AS SR)	VANADIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOVERED FM BOTTOM MATERIAL (UG/G AS ZN)	COAL IN BOTTOM MATERIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)
FEB 06...	11	--	--	--	22	<6.0	--	30	--	--	--
MAR 12...	--	--	--	--	--	--	--	--	--	--	--
MAY 08...	<10	--	--	--	15	<6.0	--	42	--	--	--
JUL 01...	--	--	--	--	--	--	--	--	--	--	--
22...	--	<1	<1	<1	--	--	10	--	45	11.0	<.01
AUG 26...	10	--	--	--	25	6.0	--	51	--	--	--

03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	65	51	63	48	44	36	76	47	54	53	72
2	61	53	40	61	54	54	36	49	43	44	54	56
3	59	54	41	62	41	44	43	64	43	45	60	53
4	66	54	40	86	37	44	42	44	44	46	54	46
5	62	55	46	62	37	51	40	44	44	46	53	49
6	47	44	48	62	54	44	41	45	46	45	72	53
7	46	56	50	61	41	44	39	45	44	45	49	57
8	46	66	54	60	40	44	38	47	46	45	49	55
9	49	52	56	61	36	38	39	37	44	45	50	53
10	46	54	63	53	41	38	39	42	38	48	---	55
11	51	53	67	53	41	37	40	44	47	46	---	57
12	---	52	75	52	40	40	41	43	46	46	---	57
13	---	51	75	43	41	52	45	42	44	50	---	59
14	---	51	67	36	37	37	42	43	46	52	---	65
15	---	52	72	50	42	38	48	45	46	52	---	63
16	---	52	57	39	41	36	43	48	44	---	---	56
17	71	64	63	43	37	36	44	44	46	---	---	56
18	70	45	68	38	44	36	47	44	45	---	---	56
19	70	45	67	38	42	49	47	42	47	---	---	56
20	77	46	67	41	39	41	41	48	45	---	---	---
21	70	42	63	41	42	36	42	49	40	---	---	---
22	67	42	63	39	44	48	41	48	42	---	---	---
23	69	45	69	40	46	38	40	60	57	54	---	---
24	66	45	65	40	46	36	44	46	49	67	---	---
25	46	46	62	41	45	49	45	45	48	55	---	---
26	47	54	62	40	48	36	44	53	45	54	---	---
27	46	44	62	47	66	40	46	47	46	55	---	---
28	47	54	68	---	38	39	42	37	49	53	---	---
29	68	44	62	49	---	36	47	49	48	50	---	---
30	64	55	63	37	---	36	89	39	49	49	78	---
31	53	---	63	36	---	50	---	37	---	50	77	---
MEAN	59	51	60	49	43	42	44	47	46	50	59	57
WTR YR 1981	MEAN	50	MAX	89	MIN	36						

TURBIDITY (NTU), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	6.8	9.5	1.4	3.2	10	3.4	14	2.1	3.4	3.3	1.6
2	2.6	2.4	1.8	1.5	1.2	14	4.2	4.3	1.1	3.5	2.0	3.3
3	1.3	1.8	1.3	1.4	2.3	11	1.3	6.8	1.7	4.0	3.2	6.7
4	1.4	1.8	1.5	1.5	2.1	23	.6	1.0	1.1	3.2	2.3	20
5	1.0	2.7	1.6	1.4	2.1	29	1.5	1.0	1.1	4.0	3.3	17
6	1.2	1.5	10	1.5	1.7	6.2	7.0	.4	1.2	9.5	5.4	6.7
7	1.2	2.3	9.6	1.4	2.0	7.3	1.3	1.3	1.2	4.6	7.7	6.4
8	1.3	4.7	13	1.2	3.2	6.6	8.0	3.3	1.3	2.4	7.8	7.0
9	1.4	1.5	10	1.1	2.4	2.7	1.0	18	1.0	2.3	5.1	13
10	1.3	1.5	9.5	1.4	3.7	3.2	9.0	24	45	3.3	---	6.4
11	1.6	1.3	3.4	1.5	10	2.8	8.5	1.2	10	1.8	---	3.4
12	---	1.2	2.4	1.3	9.0	3.2	1.1	1.5	3.0	1.7	---	2.5
13	---	1.2	2.4	1.5	14	1.8	1.6	1.0	1.0	1.0	---	2.1
14	---	1.4	2.4	2.4	3.3	2.4	7.0	4.8	1.6	1.0	---	2.5
15	---	1.6	8.9	1.4	10	2.5	45	7.0	2.2	2.1	---	6.6
16	---	1.7	26	5.6	10	2.5	2.0	4.0	1.0	---	---	8.5
17	1.3	3.8	19	10	2.5	2.4	2.0	1.0	2.5	---	---	6.7
18	1.9	1.5	2.7	2.4	9.8	3.4	10	1.2	2.0	---	---	3.5
19	1.4	1.5	2.6	2.0	5.8	1.4	3.5	1.0	2.2	---	---	2.2
20	2.2	1.2	2.4	9.8	3.0	11	1.5	14	15	---	---	---
21	1.4	1.2	1.0	13	10	3.8	1.5	17	21	---	---	---
22	1.2	1.2	1.5	2.2	13	1.8	1.2	10	20	---	---	---
23	1.6	2.0	1.3	4.0	10	7.6	3.0	12	3.5	3.1	---	---
24	1.2	2.0	1.1	6.1	2.9	3.0	2.0	1.5	3.0	9.0	---	---
25	5.3	4.9	1.2	1.9	6.6	1.3	2.7	1.0	6.6	5.0	---	---
26	3.3	13	1.0	8.3	8.3	2.8	2.6	1.1	2.3	6.7	---	---
27	4.4	1.5	1.3	8.4	4.7	40	1.0	2.5	3.6	3.5	---	---
28	4.9	12	.9	---	3.8	14	1.0	15	2.6	2.6	---	---
29	8.3	24	1.3	1.5	---	3.8	3.5	38	2.5	12	---	---
30	6.7	16	1.2	1.9	---	3.3	18	26	7.5	11	2.0	---
31	2.4	---	1.1	2.3	---	1.5	---	16	---	6.4	1.6	---
MEAN	2.4	4.0	4.9	3.4	5.7	7.4	5.2	8.1	5.7	4.5	4.0	6.6
WTR YR 1981	MEAN	5.2	MAX	45	MIN	.4						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

TOTAL LOAD FOR YEAR: 20636.16 TONS.

MONONGAHELA RIVER BASIN

03069000 SHAVERS FORK AT PARSONS, WV

LOCATION.--Lat 39°05'45", long 79°40'40", Tucker County, Hydrologic Unit 05020004, on right bank at Parsons, 0.7 mi (1.1 km) upstream from confluence with Black Fork.

DRAINAGE AREA.--214 mi² (554 km²).

PERIOD OF RECORD.--October 1910 to September 1926, October 1940 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 583: 1922. WSP 923: Drainage area. WSP 1335: 1911-12, 1915-17, 1918(M), 1921-22(M), 1926(M). WSP 1705: 1955.

GAGE.--Water-stage recorder. Datum of gage is 1,634.87 ft (498.308 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1923, nonrecording gage on old highway bridge 800 ft (244 m) downstream and Aug. 25, 1923, to Sept. 30, 1926, nonrecording gage on railroad bridge 760 ft (232 m) downstream at datum 3.0 ft (0.9 m) lower. Oct. 4, 1940, to Apr. 4, 1942, nonrecording gage at present site and datum.

REMARKS.--Records good except those for period Dec. 20 to Feb. 17, which are poor.

AVERAGE DISCHARGE.--57 years, 552 ft³/s (15.63 m³/s), 35.03 in/yr (890 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s (453 m³/s) Oct. 16, 1954, gage height, 12.34 ft (3.761 m), from rating curve extended above 11,000 ft³/s (320 m³/s) on basis of slope-conveyance study; minimum daily, 3.0 ft³/s (0.085 m³/s) Oct. 7, 1914.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, and July 17, 1907, reached a stage of approximately 12.5 ft (3.8 m) at site and datum of former gage, discharge, 25,000 ft³/s (710 m³/s), from rating curve extended above 8,000 ft³/s (230 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,300 ft³/s (150 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	0300	5900 167	6.70 2.042	June 6	1830	*9440 267	8.79 2.679

Minimum discharge, 33 ft³/s (0.93 m³/s) Sept. 1, gage height, 0.46 ft (0.140 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	245	420	230	220	2090	1890	948	1110	493	169	40
2	68	205	611	210	1170	1370	1930	1470	858	660	131	227
3	68	174	1390	180	684	853	1220	865	833	486	132	212
4	68	154	916	150	350	619	923	602	1360	344	129	404
5	78	160	625	140	290	636	1010	462	2580	339	155	812
6	84	168	548	130	260	793	1410	393	6320	772	163	353
7	68	156	625	150	220	594	866	386	3360	597	407	211
8	62	137	788	140	190	429	652	358	1500	404	426	316
9	52	130	820	130	170	367	554	300	992	321	267	646
10	52	177	1430	120	180	325	769	268	2620	279	195	363
11	54	238	1050	115	600	291	878	274	2490	256	156	227
12	52	186	692	105	1880	269	697	817	1260	227	149	163
13	52	156	527	100	750	256	657	732	793	189	135	130
14	52	142	425	110	520	267	643	519	1050	171	127	108
15	45	135	358	110	450	256	1010	1050	954	157	109	163
16	38	137	316	97	400	276	778	1120	556	139	119	820
17	38	241	291	89	520	283	770	824	399	120	144	590
18	38	1580	245	83	1040	234	1760	648	322	109	131	330
19	44	989	221	84	1690	224	1270	2040	270	104	94	249
20	52	513	160	89	2780	217	966	2940	953	115	78	208
21	52	368	110	100	4370	195	974	1600	980	105	66	174
22	51	312	99	105	2190	183	693	950	860	158	59	147
23	38	271	130	110	3030	214	607	660	780	119	53	126
24	38	1960	210	100	2930	302	844	492	520	105	48	110
25	89	2900	180	120	1400	323	877	390	373	122	44	98
26	420	1320	120	300	909	334	724	329	692	180	42	90
27	279	828	140	480	660	1530	608	311	555	150	41	84
28	205	660	170	400	660	1810	497	734	344	159	40	76
29	574	576	200	270	---	1210	444	2110	275	288	39	71
30	448	453	250	190	---	2240	515	911	303	466	37	65
31	308	---	270	150	---	2700	---	1480	---	257	36	---
TOTAL	3649	15671	14337	4887	30513	21690	27436	*26983	36262	8391	3921	7613
MEAN	118	522	462	158	1090	700	915	870	1209	271	126	254
MAX	574	2900	1430	480	4370	2700	1930	2940	6320	772	426	820
MIN	38	130	99	83	170	183	444	268	270	104	36	40
CFSM	.55	2.44	2.16	.74	5.09	3.27	4.28	4.07	5.65	1.27	.59	1.19
IN.	.63	2.72	2.49	.85	5.30	3.77	4.77	4.69	6.30	1.46	.68	1.32

CAL YR 1980	TOTAL	208558	MEAN 570	MAX 4140	MIN 38	CFSM 2.66	IN 36.25
WTR YR 1981	TOTAL	201353	MEAN 552	MAX 6320	MIN 36	CFSM 2.58	IN 35.00

03069500 CHEAT RIVER NEAR PARSONS, WV

LOCATION.--Lat 39°07'20", long 79°40'50", Tucker County, Hydrologic Unit 05020004, on left bank 2.0 mi (3.2 km) north of Parsons, 3.0 mi (4.8 km) downstream from confluence of Black and Shavers Forks, and at mile 74.8 (120.4 km).

DRAINAGE AREA.--718 mi² (1,860 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 893: Drainage area. WSP 1305: 1917(M), 1924(M), 1932(M), 1936(M), 1938-39(M). WSP 1335: 1916. WSP 1385: 1918-19(M).

GAGE.--Water-stage recorder. Datum of gage is 1,589.66 ft (484.528 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Aug. 17, 1944, nonrecording gage on Moss Bridge about 1,600 ft (488 m) upstream at datum 1.13 ft (0.344 m) higher.

REMARKS.--Water-discharge records good except those for Nov. 27 to Feb. 10, Mar. 19-22, and Apr. 17 to May 28, which are poor. Monongahela Power Company gage-height telemeter at station.

AVERAGE DISCHARGE.--68 years, 1,692 ft³/s (47.92 m³/s), 32.00 in/yr (813 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,100 ft³/s (1,480 m³/s) Oct. 15, 1954, gage height, 19.08 ft (5.816 m), from rating curve extended above 26,000 ft³/s (740 m³/s) on basis of slope-area measurement of peak flow; minimum observed, 9 ft³/s (0.25 m³/s) Aug. 12, 1930, gage height, 1.28 ft (0.390 m), site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of 20.5 ft (6.25 m), discharge, 51,300 ft³/s (1,450 m³/s), from floodmarks, at site and datum in use prior to Aug. 17, 1944; it was not exceeded until flood of Oct. 15, 1954, which reached a stage 0.3 ft (0.09 m) higher at that site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,000 ft³/s (736 m³/s) June 6, gage height, 12.12 ft (3.694 m), no other peak above base of 16,000 ft³/s (450 m³/s); minimum, 52 ft³/s (1.47 m³/s) Aug. 31, gage height, 1.81 ft (0.552 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173	589	1500	646	2170	6100	4290	3000	3480	1400	367	211
2	162	467	4300	552	3630	3820	4370	5400	3040	1860	292	1170
3	167	391	3200	480	2470	2640	2980	3500	2650	1480	305	1420
4	169	359	2600	420	1550	2040	2340	2500	3710	1000	310	4030
5	176	387	2200	385	1140	2070	2420	1750	7330	856	319	3330
6	173	382	1900	403	975	2310	2900	1500	20800	1630	343	1440
7	153	342	2200	486	800	1830	2120	1390	10700	1320	848	756
8	144	306	2450	466	690	1450	1750	1180	4960	928	865	1160
9	128	287	2650	434	580	1240	1540	1000	3280	716	543	2400
10	126	429	5100	410	560	1070	1980	850	7750	625	393	1250
11	148	500	3800	385	3180	967	3540	1000	7500	543	324	700
12	158	396	2600	368	5060	869	3550	1270	3870	487	310	499
13	143	336	2100	405	2930	868	3770	1550	2520	414	287	414
14	130	308	1700	408	2170	1140	3060	1410	5530	430	266	348
15	115	294	1370	403	1680	1010	3670	1300	5160	393	245	563
16	107	308	1100	335	1530	1130	2690	2850	2790	343	362	3370
17	99	457	920	310	2190	1030	2550	2450	1850	305	367	2470
18	101	5580	760	290	4030	919	4250	2080	1370	283	305	1310
19	114	3150	580	275	5750	830	3500	4000	1030	266	237	892
20	119	1780	440	300	8540	740	3700	9300	3150	296	200	732
21	114	1290	330	330	11900	685	3000	7000	3090	301	164	577
22	105	1020	304	340	7120	620	2550	3800	2700	367	139	481
23	97	837	472	368	8040	718	2200	2200	2190	310	122	424
24	89	6380	591	335	7520	947	2600	1700	1500	274	111	382
25	450	8760	515	426	4230	1090	2950	1350	1070	357	101	338
26	1470	4390	410	530	2890	1290	2700	1140	1790	377	91	305
27	752	3000	430	3720	2200	8000	3000	930	1370	338	85	283
28	747	2250	485	4700	2510	7800	2700	1060	901	372	81	262
29	1910	1950	557	3580	---	4910	2200	4200	685	1170	76	241
30	1280	1700	713	2860	---	5960	2450	3320	748	1060	68	226
31	801	---	713	2250	---	6060	---	4850	---	537	66	---
TOTAL	10620	48625	48990	27600	98035	72153	87320	80830	118514	21038	8592	31984
MEAN	343	1621	1580	890	3501	2328	2911	2607	3950	679	277	1066
MAX	1910	8760	5100	4700	11900	8000	4370	9300	20800	1860	865	4030
MIN	89	287	304	275	560	620	1540	850	685	266	66	211
CFSM	.48	2.26	2.20	1.24	4.88	3.24	4.05	3.63	5.50	.95	.39	1.49
IN.	.55	2.52	2.54	1.43	5.08	3.74	4.52	4.19	6.14	1.09	.45	1.66

CAL YR 1980 TOTAL 673517 MEAN 1840 MAX 14000 MIN 89
WTR YR 1981 TOTAL 654301 MEAN 1793 MAX 20800 MIN 66
CFSM 2.56 IN 34.90
CFSM 2.50 IN 33.90

03069500 CHEAT RIVER NEAR PARSONS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 05...	1155	372	80	7.0	9.0	--	--	.0	--	--	--
DEC 17...	1100	922	70	6.9	3.0	18	5	.0	5.0	1.3	2.1
FEB 05...	1030	1110	82	7.1	1.0	37	24	.0	12	1.8	2.1
APR 01...	1325	4010	65	7.4	10.5	19	12	.0	5.5	1.2	.9
MAY 28...	1225	1100	70	7.1	19.0	27	18	.0	7.8	1.7	1.2
JUL 15...	1050	403	90	7.0	20.0	--	--	--	--	--	--
21...	1530	253	137	5.5	24.0	54	--	.3	15	3.9	1.7
23...	0725	360	215	7.0	21.5	--	--	.0	--	--	--
AUG 26...	0915	72	260	7.1	19.0	--	--	.0	--	--	--
SEP 01...	1210	202	260	6.6	24.0	--	--	--	--	--	--

[illegible][illegible]

MONONGAHELA RIVER BASIN

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03069500 CHEAT RIVER NEAR PARSONS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, SUS- PENDE REC OV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL REC OV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE REC OV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 17...	290	240	<10	<4	80	20	60	<10	16	<6.0	31
FEB 05...	180	30	--	--	50	0	150	--	--	--	--
APR 01...	280	70	--	--	100	0	100	--	--	--	--
MAY 28...	440	26	22	8	180	10	170	<10	26	<6.0	46
JUL 21...	220	10	--	--	560	0	600	--	--	--	--

MONONGAHELA RIVER BASIN

03070000 CHEAT RIVER AT ROWLESBURG, WV

LOCATION.--Lat 39°20'50", long 79°40'00", Preston County, Hydrologic Unit 05020004, on left bank 50 ft (15 m) downstream from Baltimore & Ohio Railroad bridge at Rowlesburg, 300 ft (91 m) upstream from Saltlick Creek, and at mile 44.1 (71.0 km). Records include flow of Saltlick Creek.

DRAINAGE AREA.--972 mi² (2,517 km²), including that of Saltlick Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1912 to September 1923 (gage heights only), October 1923 to current year. Gage-height records collected at practically the same site since 1884 are contained in reports of National Weather Service. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 803: Drainage area. WSP 893: 1936-37. WSP 1173: 1924-34(M,m). WSP 1725: 1924(M), 1930(M), 1932(M), 1936(M), 1938-39(M), 1944(M), 1948-49(M).

GAGE.--Water-stage recorder. Datum of gage is 1,369.8 ft (417.52 m) Baltimore & Ohio RR datum. Prior to Nov. 18, 1923, nonrecording gages at several sites within 500 ft (152 m) of present site at various datums.

REMARKS.--Water-discharge records fair except those for Dec. 20 to Jan. 25, which are poor.

AVERAGE DISCHARGE.--58 years, 2,280 ft³/s (64.57 m³/s), 31.85 in/yr (809 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,300 ft³/s (1,880 m³/s) Oct. 16, 1954, gage height, 15.67 ft (4.776 m), from rating curve extended above 42,000 ft³/s (1,200 m³/s); minimum, 10 ft³/s (0.28 m³/s) Oct. 15, 1930; minimum gage height observed, 0.50 ft (0.152 m) Oct. 3, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 6, 1844, reached a stage of 16.7 ft (5.09 m), referred to present gage by relation curve, discharge, 89,000 ft³/s (2,520 m³/s), from rating curve extended above 45,000 ft³/s (1,300 m³/s). Flood of July 10, 1888, reached a stage of 16.2 ft (4.94 m), referred to present gage by relation curve, discharge, 84,000 ft³/s (2,380 m³/s), from rating curve extended above 45,000 ft³/s (1,300 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,100 ft³/s (1,140 m³/s) June 6, gage height, 11.59 (3.533 m), no other peak above base of 20,000 ft³/s (570 m³/s); minimum observed, 84 ft³/s (2.38 m³/s) Aug. 30, gage height, 0.78 ft (0.238 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	284	1060	2030	1060	1620	8620	5020	4470	5690	1350	595	186
2	244	840	2680	860	4190	5910	5250	7510	3950	1520	428	610
3	238	700	5800	780	4530	3750	4000	4520	3560	1770	377	1590
4	251	620	4620	680	2690	2780	3100	3200	4880	1180	377	3710
5	244	620	3240	590	2020	2690	2780	2490	11900	995	365	4250
6	251	650	2660	630	1780	3370	3480	2080	28600	1300	397	2230
7	244	610	2660	690	1580	2840	2740	1970	18600	1520	558	1320
8	215	550	3080	680	1400	2230	2280	1730	6970	1120	1030	1040
9	198	508	3320	640	1240	1880	2020	1470	3950	866	796	2730
10	198	570	7030	590	1100	1650	2280	1270	7600	752	560	1920
11	203	820	4970	550	2650	1490	4800	1260	10300	674	420	1230
12	215	770	3360	510	7410	1380	6790	1940	5000	608	357	863
13	227	640	2660	530	4090	1310	7120	2390	3080	565	335	678
14	203	550	2220	540	2940	1520	4750	1940	9020	528	299	547
15	186	508	1860	520	2320	1620	4900	3180	8670	501	282	599
16	154	524	1630	465	2050	1600	4000	4500	3880	429	413	2650
17	144	750	1480	430	2500	1740	3280	3480	2490	364	499	3400
18	124	7180	1240	395	4880	1530	6100	2840	1820	320	417	1980
19	154	5000	1140	380	6710	1390	5470	7330	1410	288	326	1380
20	149	2820	850	410	8090	1260	4350	12800	2620	280	241	1140
21	144	2000	780	460	16100	1190	4100	6670	4380	389	189	947
22	133	1620	530	490	10400	1070	3220	3910	4080	385	154	781
23	133	1350	640	485	8740	1120	2740	2770	2840	408	127	661
24	129	5600	940	460	10900	1330	4050	2170	2020	386	115	571
25	352	13100	800	880	6080	1570	4400	1750	1560	419	111	501
26	1610	6700	600	1660	3950	1890	3850	1520	1810	465	107	437
27	1550	4030	680	3210	2950	9090	4370	1800	1780	616	99	384
28	1020	3200	800	4140	2730	11100	4350	1770	1230	625	94	339
29	2000	2740	930	3250	---	6190	3140	6550	924	1270	90	304
30	2150	2300	1080	2060	---	6280	3100	5030	799	1450	84	275
31	1440	---	1220	1640	---	6970	---	7780	---	935	164	---
TOTAL	14787	68930	67530	30665	127640	98360	121830	114090	165413	24278	10406	39253
MEAN	477	2298	2178	989	4559	3173	4061	3680	5514	783	336	1308
MAX	2150	13100	7030	4140	16100	11100	7120	12800	28600	1770	1030	4250
MIN	124	508	530	380	1100	1070	2020	1260	799	280	84	186
CFSM	.49	2.36	2.24	1.02	4.69	3.26	4.18	3.79	5.67	.81	.35	1.35
IN.	.57	2.64	2.58	1.17	4.88	3.76	4.66	4.37	6.33	.93	.40	1.50
CAL YR 1980	TOTAL	926611	MEAN	2532	MAX	18400	MIN	124	CFSM	2.61	IN	35.46
WTR YR 1981	TOTAL	883182	MEAN	2420	MAX	28600	MIN	84	CFSM	2.49	IN	33.80

03070000 CHEAT RIVER AT ROWLESBURG, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1968-74, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 16...	1040	146	90	7.0	11.0	44	33	.0	13	2.7	1.8	8
DEC 12...	1300	3320	<50	6.2	4.0	38	33	.0	11	2.5	6.8	--
JAN 20...	1030	407	80	7.0	1.0	26	--	.0	7.6	1.8	1.6	--
MAR 10...	1200	1600	95	6.9	4.0	25	12	.0	7.5	1.5	1.6	--
APR 16...	1020	3990	57	7.0	9.0	20	10	.0	5.9	1.2	1.1	--
JUN 29...	1300	951	73	7.3	21.0	26	--	.0	8.1	1.4	1.8	--
JUL 23...	0840	373	94	6.6	21.0	39	--	.0	12	2.3	1.8	--
AUG 18...	1110	418	85	7.7	21.5	32	--	.0	9.6	2.0	.4	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 16...	.1	.8	13	29	2.2	.0	2.3	63	58	.09	24.8
DEC 12...	.5	--	7	14	1.5	--	6.2	45	46	.06	403
JAN 20...	.1	--	--	18	2.3	--	4.2	51	--	.07	56.0
MAR 10...	.1	--	16	15	1.9	--	--	48	--	.07	207
APR 16...	.1	--	12	12	1.2	--	--	42	--	.06	452
JUN 29...	.2	--	13	18	1.5	--	--	48	--	.07	123
JUL 23...	.1	--	12	24	1.7	--	--	58	--	.08	58.4
AUG 18...	.0	--	10	20	1.6	--	3.3	56	--	.08	63.2

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 16...	--	--	--	--	--	--	--	--	--	--	--
DEC 12...	--	--	--	--	--	--	50	<0	<1	<3	<10
JAN 20...	<.010	<.03	.72	.100	<.010	<.03	40	<1	<1	<3	<10
MAR 10...	--	--	--	--	--	--	--	--	--	--	--
APR 16...	--	--	--	--	--	--	--	--	--	--	--
JUN 29...	--	--	--	--	--	--	--	--	--	--	--
JUL 23...	--	--	--	--	--	--	--	--	--	--	--
AUG 18...	<.010	--	.28	<.010	<.010	--	30	1	1	3	10

MONONGAHELA RIVER BASIN

03070000 CHEAT RIVER AT ROWLESBURG, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 16...	150	130	20	--	--	10	6	4	--	--	--	--
DEC 12...	320	290	110	<10	<4	70	20	62	<10	54	<6.0	41
JAN 20...	10	--	<10	<10	<4	60	20	40	<10	27	<6.0	20
MAR 10...	240	200	40	--	--	70	0	80	--	--	--	--
APR 16...	320	300	20	--	--	50	10	40	--	--	--	--
JUN 29...	350	300	50	--	--	30	20	10	--	--	--	--
JUL 23...	150	140	10	--	--	10	0	10	--	--	--	--
AUG 18...	120	100	21	10	4	10	0	11	10	34	6.0	11

03070500 BIG SANDY CREEK AT ROCKVILLE, WV

LOCATION.--Lat 39°37'15", long 79°42'20", Preston County, Hydrologic Unit 05020004, on right bank just downstream from highway bridge at Rockville, and at mile 5.0 (8.0 km).

DRAINAGE AREA.--200 mi² (518 km²).

PERIOD OF RECORD.--May 1909 to March 1918, April 1921 to current year.

REVISED RECORDS.--WSP 583: 1912(M), 1922-23. WSP 643: Drainage area. WSP 923: 1939. WSP 1173: 1930-34(M,m). WSP 1335: 1910-18, 1921, 1922-24(M), 1928(M), 1930-43(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,310 ft (399 m), from topographic map. Prior to Oct. 4, 1924, nonrecording gages at highway bridge at same datum.

REMARKS.--Records good except those for Dec. 16 to Feb. 20, which are poor.

AVERAGE DISCHARGE.--68 years (water years 1910-17, 1922-81), 424 ft³/s (12.01 m³/s), 28.79 in/yr (731 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 21,300 ft³/s (603 m³/s) July 24, 1912, gage height, 18.0 ft (5.49 m), from rating curve extended above 10,000 ft³/s (280 m³/s) on basis of velocity-area studies; minimum, 0.1 ft³/s (0.003 m³/s) Oct. 21-27, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of about 20 ft (6.1 m), discharge, about 30,000 ft³/s (850 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,800 ft³/s (140 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Feb. 21	0400	4850	137	10.42	3.176	Aug. 13	0500	*7680	217	12.04	3.670

Minimum discharge, 13 ft³/s (0.37 m³/s) Aug. 30, gage height, 3.24 ft (0.988 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	88	389	195	382	1630	319	520	434	521	168	80
2	22	75	481	176	1970	976	286	488	385	250	123	98
3	26	62	720	155	2100	700	259	394	462	200	139	212
4	36	59	530	140	1000	543	237	342	728	230	126	410
5	41	61	441	122	400	675	218	297	586	169	106	347
6	34	55	385	128	345	705	217	278	2640	148	123	173
7	27	50	350	140	300	570	186	257	2450	117	150	114
8	24	62	340	138	265	469	171	206	1100	96	108	112
9	23	89	579	135	230	406	175	179	1500	82	86	139
10	22	112	992	130	500	382	186	165	3080	71	69	94
11	22	98	710	126	1550	350	200	220	1800	60	59	70
12	21	81	543	119	900	340	2390	357	968	52	52	58
13	19	70	449	121	600	489	5400	338	630	87	46	51
14	18	64	361	124	495	620	2670	303	1540	133	43	46
15	17	60	301	122	425	521	2000	1920	1400	70	42	593
16	16	63	257	119	500	700	1160	1330	765	51	57	1290
17	16	128	218	112	1090	745	838	801	650	46	61	620
18	19	1090	185	105	1400	593	1240	604	441	42	42	340
19	38	521	157	103	1650	503	968	984	328	36	34	237
20	32	337	134	108	2600	410	733	1190	295	83	30	184
21	25	265	120	121	3890	343	553	779	280	313	26	146
22	22	217	137	129	1880	283	453	571	410	220	23	117
23	19	186	160	131	1620	310	439	436	389	119	20	103
24	17	1070	194	122	1510	335	795	349	262	92	18	87
25	212	1590	159	145	1000	358	1250	283	331	81	18	74
26	473	884	140	277	710	385	890	238	494	141	16	63
27	173	640	156	894	552	534	840	331	301	322	15	57
28	135	539	168	748	890	548	685	335	218	382	15	50
29	173	469	186	546	---	469	575	336	166	960	14	46
30	132	392	200	360	---	428	543	299	253	438	14	43
31	104	---	220	272	---	361	---	546	---	245	38	---
TOTAL	1980	9477	10362	6363	30754	16681	26876	15676	25286	5857	1881	6054
MEAN	63.9	316	334	205	1098	538	896	506	843	189	60.7	202
MAX	473	1590	992	894	3890	1630	5400	1920	3080	960	168	1290
MIN	16	50	120	103	230	283	171	165	166	36	14	43
CFSM	.32	1.58	1.67	1.03	5.49	2.69	4.48	2.53	4.22	.95	.30	1.01
IN.	.37	1.76	1.93	1.18	5.72	3.10	5.00	2.92	4.70	1.09	.35	1.13

CAL YR 1980	TOTAL	142796	MEAN 390	MAX 3160	MIN 16	CFSM 1.95	IN 26.56
WTR YR 1981	TOTAL	157247	MEAN 431	MAX 5400	MIN 14	CFSM 2.16	IN 29.25

MONONGAHELA RIVER BASIN

03071600 CHEAT RIVER AT LAKE LYNN, PA

LOCATION.--Lat 39°43'15", long 79°51'20", Fayette County, Hydrologic Unit 05020004, at the Lake Lynn hydroelectric plant of the West Penn Power Company at Lake Lynn, 3.0 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--1,411 mi² (3,654 km²).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1948 to September 1957, October 1958 to current year (partial record).

COOPERATION.--Records were furnished by the West Penn Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (Water years 1949-57): Maximum 29.5°C July 30, 1949, July 28, 1952, and Aug. 6, 1955; minimum, 0.5°C several days during 1951, 1952, 1954, 1955, 1957.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.5	---	7.0	---	---	---	11.0	14.5	20.5	24.5	---	26.0
2	11.5	---	6.5	3.0	2.0	5.5	10.5	---	20.5	24.5	---	26.0
3	11.0	14.5	6.0	---	2.0	6.5	12.5	---	22.0	24.5	27.0	25.5
4	---	15.0	---	---	3.0	6.0	---	15.5	21.0	24.5	27.0	25.5
5	---	---	5.0	3.0	1.5	5.5	---	15.0	22.0	---	27.0	---
6	11.5	13.5	---	3.5	1.0	7.5	12.0	14.5	---	24.5	26.5	---
7	19.5	13.5	---	3.0	---	---	12.0	14.5	---	25.0	26.5	24.5
8	19.0	---	11.0	3.0	---	---	13.5	15.0	22.0	---	---	24.5
9	19.0	---	7.0	---	1.0	5.5	13.5	---	18.0	27.0	---	24.0
10	19.0	12.5	6.0	---	1.5	5.0	13.5	---	18.5	27.0	27.0	23.5
11	---	---	7.0	---	2.0	4.0	---	19.0	18.5	---	27.0	23.5
12	---	12.0	7.5	4.5	1.0	5.0	---	17.5	22.5	---	27.0	---
13	18.5	11.5	---	3.0	.5	5.0	14.0	17.5	---	26.5	26.5	---
14	18.0	14.5	---	2.5	---	---	14.0	18.0	---	26.5	---	24.0
15	18.0	---	8.0	2.5	---	---	13.0	18.0	20.5	---	---	24.5
16	18.0	---	8.0	2.5	---	5.5	14.5	---	25.0	26.0	---	23.0
17	18.0	11.0	7.5	---	.5	6.0	---	---	21.0	26.0	25.5	23.0
18	---	10.0	---	---	1.0	5.5	---	16.0	25.0	---	25.5	22.5
19	---	9.5	9.0	3.0	1.0	4.5	---	15.0	23.5	---	---	---
20	---	13.5	---	2.0	1.5	6.0	14.5	16.0	---	27.5	25.0	---
21	---	11.0	---	4.5	---	---	13.5	---	---	27.5	25.5	21.0
22	14.0	---	---	3.0	---	---	13.5	---	23.5	27.0	---	21.0
23	17.5	---	---	3.0	5.5	6.5	14.0	---	23.0	---	---	20.0
24	16.5	11.0	5.0	---	8.0	5.0	13.5	---	24.0	---	25.0	19.5
25	---	10.0	---	---	9.0	5.5	---	---	25.0	---	---	19.5
26	---	10.0	---	4.0	6.0	6.0	---	---	23.5	---	26.0	---
27	18.0	---	---	3.0	7.0	---	12.0	20.0	---	27.5	26.0	---
28	15.5	9.5	---	4.0	---	---	15.0	20.5	---	27.0	---	19.5
29	15.0	---	7.5	3.5	---	---	15.0	---	24.0	---	---	19.5
30	15.0	---	---	4.0	---	10.5	14.0	---	25.0	26.5	---	19.0
31	---	---	---	---	---	11.0	---	---	---	26.0	26.0	---
MEAN	16.5	12.0	7.0	3.0	3.0	6.0	13.5	16.5	22.0	26.0	26.0	22.5
WTR YR 1981	MEAN	14.5		MAX	27.5	MIN	.5					

MONONGAHELA RIVER BASIN

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03075650 HAYES RUN NEAR CRANESVILLE, WV

LOCATION.--Lat 39°31'55", long 79°29'16", Preston County, Hydrologic Unit 05020006, on left bank, 1.5 mi (2.4 km) southeast of Cranesville, and at mile 0.2 (0.1 km).

DRAINAGE AREA.--0.93 mi² (2.41 km²).

PERIOD OF RECORD.--August 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 2,550 ft (777 m), from topographic map.

REMARKS.--Records good except those for Dec. 11 to Feb. 15, which are poor. Discharge and rainfall records collected at site for August and September 1980 are contained in files of U.S. Geological Survey. Monthly rainfall totals only are published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 37 ft³/s (1.05 m³/s) June 6, 1981, gage height, 3.85 ft (1.173 m), from rating curve extended above 15 ft³/s (0.42 m³/s) on basis of culvert computation; minimum, 0.43 ft³/s (0.01 m³/s) Jan 13, 14, 18, 1981, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 25 ft³/s (0.71 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 12	2330	29 0.82	3.32 1.012	June 13	2300	25 0.71	3.06 0.933
June 6	1600	*37 1.05	3.85 1.173				

Minimum discharge, 0.43 ft³/s (0.01 m³/s) Jan. 13, 14, 18, result of freezeup.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	.69	2.5	.73	2.0	5.2	4.0	3.8	1.2	2.1	2.4	.64
2	.50	.65	4.1	.70	3.5	4.3	3.4	3.2	1.2	1.6	1.9	.71
3	.51	.59	3.9	.67	3.3	3.8	3.0	2.9	1.3	1.4	3.4	.79
4	.55	.63	3.3	.65	2.0	3.3	2.8	2.6	1.6	1.4	2.6	2.6
5	.53	.56	3.0	.70	1.6	3.3	2.7	2.3	1.4	1.3	2.1	1.1
6	.50	.53	2.9	.75	1.5	2.8	2.4	2.0	1.4	1.2	3.4	.86
7	.50	.53	2.7	.69	1.4	2.5	2.1	1.7	7.7	1.0	2.8	.79
8	.50	.59	2.2	.64	1.3	2.1	1.8	1.4	5.9	.94	2.5	1.1
9	.50	.56	3.9	.58	1.2	1.9	1.8	1.3	7.1	.88	2.1	.97
10	.48	.53	3.6	.54	1.1	1.7	1.6	1.2	9.6	.87	1.8	.87
11	.55	.50	2.7	.50	3.7	1.6	2.0	1.5	6.6	.82	1.5	.83
12	.56	.49	2.3	.46	4.0	1.5	5.9	1.4	5.5	.76	1.3	.80
13	.56	.46	2.0	.43	2.3	1.9	11	1.1	6.1	1.0	1.2	.76
14	.56	.44	1.7	.43	2.1	2.0	13	1.1	9.2	.81	1.1	.72
15	.56	.43	1.4	.44	1.9	1.9	8.3	3.1	5.7	.70	1.0	3.2
16	.59	.50	1.2	.47	2.1	2.9	6.6	2.3	5.0	.63	.92	3.0
17	.59	.81	1.0	.44	5.6	2.5	6.0	2.2	4.4	.60	.88	2.4
18	.83	1.2	.89	.43	7.2	2.3	5.6	2.3	3.4	.55	.82	2.0
19	.89	.82	.76	.45	7.7	2.0	4.2	4.5	2.7	.53	.75	1.9
20	.81	.78	.60	.52	14	1.8	4.1	3.7	2.4	1.7	.71	1.6
21	.79	.74	.84	.56	15	1.6	3.3	3.3	2.6	1.6	.68	1.4
22	.76	.72	.79	.56	9.4	1.5	2.8	2.9	2.9	1.1	.62	1.2
23	.73	.85	.84	.55	9.1	1.5	3.7	2.5	2.0	.78	.59	1.1
24	.73	5.6	.80	.54	6.3	1.6	4.0	2.1	1.7	1.0	.58	.98
25	2.0	4.9	.75	.50	4.8	1.7	4.7	1.7	2.4	.84	.54	.88
26	.92	3.8	.71	.68	4.0	2.0	4.0	1.5	2.1	2.0	.53	.83
27	.62	3.3	.67	.88	3.4	6.7	4.6	1.4	1.6	2.3	.52	.78
28	1.3	3.0	.87	.75	6.0	5.1	4.0	1.8	1.4	3.4	.50	.72
29	.92	2.6	.84	.73	---	5.1	3.7	1.3	1.3	5.1	.50	.67
30	.78	2.1	.81	.75	---	4.9	3.2	1.3	2.6	3.7	.54	.65
31	.73	---	.77	1.3	---	4.2	---	1.7	---	2.9	.62	---
TOTAL	21.87	39.90	55.34	19.02	127.5	87.2	130.3	67.1	122.6	45.51	41.40	36.85
MEAN	.71	1.33	1.79	.61	4.55	2.81	4.34	2.16	4.09	1.47	1.34	1.23
MAX	2.0	5.6	4.1	1.3	15	6.7	13	4.5	14	5.1	3.4	3.2
MIN	.48	.43	.60	.43	1.1	1.5	1.6	1.1	1.2	.53	.50	.64
CFSM	.76	1.43	1.93	.66	4.89	3.02	4.67	2.32	4.40	1.58	1.44	1.32
IN.†	.87	1.59	2.21	.76	5.09	3.48	5.21	2.68	4.90	1.82	1.65	1.47
IN.‡	3.82	4.34	2.34	0.41	5.05	2.61	8.55	5.83	10.18	6.72	4.31	5.16

WTR YR 1981 TOTAL 794.59 MEAN 2.18 MAX 15 MIN .43 CFMS 2.34 IN† 31.75 IN‡ 59.32

† Runoff.
‡ Rainfall.

MONONGAHELA RIVER BASIN

03075670 MUDDY CREEK NEAR CRANESVILLE, WV

LOCATION.--Lat 39°31'29", long 79°28'54", Garrett County, Md., Hydrologic Unit 05020006, on left bank 5 ft (2 m) upstream from culvert on Riley Road, 0.2 mi (0.3 km) north of Lake Ford, Md., 2.1 mi (3.4 km) south of Cranesville, and at mile 5.8 (9.3 km).

DRAINAGE AREA.--5.09 mi² (13.2 km²).

PERIOD OF RECORD.--August 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 2,530 ft (771 m), from topographic map.

REMARKS.--Records good except those after July 15, which are fair, and those for Dec. 15 to Feb. 15, which are poor. Discharge and rainfall records collected at site for August and September 1980 are contained in files of U.S. Geological Survey. Monthly rainfall totals only are published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110 ft³/s (3.12 m³/s) Aug. 18, 1980, gage height 5.52 ft (1.682 m); minimum daily, 0.80 ft³/s (0.02 m³/s), Aug. 27, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 75 ft³/s (2.12 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	0600	*102 2.89	5.43 1.655	June 6	2300	89 2.52	5.27 1.606
Apr. 13	0730	86 2.44	5.23 1.594				

Minimum daily discharge, 0.80 ft³/s (0.02 m³/s) Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	6.8	15	4.2	6.6	56	15	17	8.0	13	8.4	2.7
2	2.1	6.1	21	3.8	18	28	16	17	8.1	8.9	5.4	3.4
3	2.4	5.9	31	3.5	19	18	12	12	8.5	7.2	12	4.5
4	3.5	6.9	17	3.3	12	14	10	11	10	6.3	8.9	8.5
5	3.2	7.0	16	3.2	9.0	15	10	10	9.2	5.7	4.5	10
6	2.6	6.3	16	3.6	7.8	13	9.6	9.0	47	5.3	5.7	5.8
7	2.4	6.1	15	4.3	8.6	11	8.4	8.0	74	4.7	8.3	4.6
8	2.1	7.4	14	3.7	9.4	10	7.4	7.0	33	4.1	4.8	5.9
9	2.2	7.3	21	3.2	9.4	9.5	7.5	6.2	39	3.7	3.4	6.9
10	2.1	7.0	31	2.9	8.4	9.0	7.6	5.2	65	3.6	2.5	8.4
11	2.7	6.8	18	2.7	18	8.8	9.2	8.0	49	3.2	1.8	5.7
12	2.5	7.0	15	2.5	15	8.6	22	11	24	2.9	1.5	3.6
13	2.5	7.1	13	2.3	13	10	72	8.3	17	4.5	1.1	3.4
14	2.2	7.2	11	2.5	11	12	69	6.2	60	3.7	.96	3.3
15	2.5	7.3	9.0	2.4	9.4	11	60	37	37	2.2	1.4	7.4
16	2.5	8.0	8.0	2.2	10	17	33	21	18	1.9	2.6	10
17	2.6	9.4	6.6	2.4	24	13	25	16	16	1.8	1.5	7.7
18	3.7	16	5.8	2.2	49	11	29	15	12	2.2	1.0	5.8
19	4.6	12	5.2	2.1	59	11	17	52	9.9	1.9	.90	5.1
20	4.0	10	4.6	2.2	72	10	17	26	9.4	3.3	1.2	4.8
21	3.9	10	3.7	2.3	91	9.6	13	14	9.0	11	.96	4.7
22	3.6	9.6	3.3	2.5	64	9.4	11	11	16	7.5	.82	4.4
23	3.7	9.7	3.8	2.6	60	8.8	15	9.7	9.8	4.0	.81	4.3
24	3.9	33	4.5	2.5	50	9.8	25	8.7	7.8	5.4	.83	4.0
25	12	54	4.1	2.4	28	10	26	8.1	8.2	4.5	.85	3.7
26	17	29	3.6	6.5	18	11	18	8.0	12	4.0	.83	3.5
27	9.2	20	3.7	9.6	14	33	22	8.4	8.8	23	.80	3.3
28	12	17	4.1	6.6	22	39	17	12	7.3	25	.88	3.1
29	12	15	4.9	5.4	---	22	15	9.3	6.3	41	1.1	3.0
30	8.8	14	5.4	4.7	---	22	13	8.2	7.1	25	1.3	2.8
31	7.5	---	5.0	5.2	---	19	---	11	---	13	2.1	---
TOTAL	148.1	368.9	339.3	109.5	735.6	489.5	631.7	411.3	646.4	253.5	89.14	154.3
MEAN	4.78	12.3	10.9	3.53	26.3	15.8	21.1	13.3	21.5	8.18	2.88	5.14
MAX	17	54	31	9.6	91	56	72	52	74	41	12	10
MIN	2.1	5.9	3.3	2.1	6.6	8.6	7.4	5.2	6.3	1.8	.80	2.7
CFSM	.94	2.42	2.14	.69	5.17	3.10	4.15	2.61	4.22	1.61	.57	1.01
IN.†	1.08	2.70	2.48	.80	5.38	3.58	4.62	3.01	4.72	1.85	.65	1.13
IN.‡	2.90	3.68	1.96	.26	4.28	2.34	7.39	5.67	10.99	6.90	3.85	5.42

WTR YR 1981 TOTAL 4377.24 MEAN 12.0 MAX 91 MIN .80 CFSM 2.36 IN† 31.98 IN‡ 55.64

† Runoff.

‡ Rainfall.

MONONGAHELA RIVER BASIN

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03075680 CUPP RUN NEAR CRANESVILLE, WV

LOCATION.--Lat 39°30'45", long 79°30'05", Preston County, Hydrologic Unit 05020006, on right bank, 10 ft below bridge on State Highway 47, 2.8 mi (4.5 km) southwest from Cranesville, 4.9 mi (7.9 km) northeast of Terra Alta and at mile 1.1 (1.8 km).

DRAINAGE AREA.--1.42 mi² (3.68 km²).

PERIOD OF RECORD.--September 1980 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 2,670 ft (814 m), from topographic map.

REMARKS.--Records good except those for Dec. 10 to Feb. 10, May 20 to June 9, which are poor. Discharge and rainfall records collected at site for September 1980 are contained in files of U.S. Geological Survey. Monthly rainfall totals only are published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54 ft³/s (1.53 m³/s) June 6, 1981, estimated on basis of runoff comparisons with nearby stations; minimum daily, 0.19 ft³/s (0.005 m³/s) Aug. 30, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 40 ft³/s (1.13 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 3	0815	50 1.42	3.25 0.991	Feb. 20	2345	44 1.25	3.17 0.966
Feb. 12	0915	41 1.16	3.13 0.954	June 6	Unknown	*a54 1.53	Unknown

a Estimated from runoff comparison with nearby stations.

Minimum daily discharge, 0.19 ft³/s (0.005 m³/s) Aug. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.91	4.2	1.0	2.1	10	5.6	6.3	6.0	4.1	3.0	.31
2	.35	.77	7.2	.97	12	5.8	4.3	4.8	6.8	2.2	2.2	.40
3	.42	.69	7.4	.93	31	4.3	3.1	3.7	4.3	1.9	9.2	.51
4	.69	1.0	4.4	.83	21	3.5	2.7	3.0	22	1.9	4.4	7.5
5	.55	.76	3.8	.87	14	4.0	3.2	2.6	32	1.5	3.0	3.8
6	.44	.55	3.7	.96	.90	3.0	2.4	2.6	38	1.4	6.6	1.7
7	.40	.52	3.6	.90	5.5	2.5	1.9	2.2	16	1.1	4.9	1.0
8	.38	.83	3.0	.83	3.9	2.1	1.6	1.7	4.6	.98	3.6	2.6
9	.36	.70	8.1	.78	2.4	1.9	1.9	1.5	12	.90	2.8	2.5
10	.36	.61	8.4	.73	1.4	1.8	1.6	1.3	18	.81	2.2	1.4
11	.49	.49	5.0	.67	7.5	1.7	3.0	2.5	8.8	.66	1.9	1.1
12	.49	.46	4.2	.62	22	1.7	14	3.2	5.8	.59	1.9	.94
13	.44	.45	3.5	.58	12	3.2	19	2.1	5.8	1.6	1.3	.84
14	.39	.43	3.0	.55	2.4	3.3	19	1.6	15	1.3	1.2	.84
15	.38	.41	2.5	.58	2.2	3.2	12	8.5	7.3	.68	1.6	12
16	.37	.74	2.1	.60	3.4	5.6	6.8	5.8	5.3	.48	2.9	10
17	.36	1.9	1.8	.64	12	3.6	7.5	4.2	4.9	.44	1.7	5.5
18	.91	5.0	1.5	.60	18	2.9	8.6	4.3	3.0	.40	.93	3.8
19	1.2	2.2	1.3	.56	16	2.3	5.6	11	2.3	.38	.79	3.0
20	.74	1.8	1.1	.59	27	2.0	5.7	8.5	2.5	1.7	.68	2.5
21	.68	1.7	.87	.61	28	1.9	3.9	4.2	3.6	5.6	.60	2.1
22	.61	1.5	.72	.71	14	1.7	3.2	3.5	7.2	2.7	.50	1.6
23	.56	1.7	1.1	.72	13	1.9	6.4	2.9	3.7	1.1	.44	1.5
24	.56	17	1.1	.71	9.1	2.3	8.7	2.4	2.7	4.5	.39	1.2
25	4.7	14	.99	.66	5.8	3.1	8.8	2.0	5.1	2.6	.34	1.0
26	2.3	6.8	.94	1.3	4.4	4.0	5.9	1.6	4.8	4.2	.28	.91
27	1.2	5.0	.87	2.6	3.6	15	7.2	1.3	2.8	7.4	.25	.84
28	3.8	4.0	.80	1.9	9.5	8.2	5.3	3.4	2.2	10	.23	.78
29	2.3	3.2	1.2	1.6	---	6.7	4.7	9.1	1.8	12	.21	.65
30	1.4	2.8	1.1	1.4	---	6.6	4.2	8.2	4.3	6.3	.19	.60
31	1.1	---	1.1	1.6	---	4.9	---	9.9	---	4.1	.26	---
TOTAL	29.26	78.92	90.59	28.60	304.10	124.7	187.8	129.9	258.6	85.52	60.49	73.42
MEAN	.94	2.63	2.92	.92	10.9	4.02	6.26	4.19	8.62	2.76	1.95	2.45
MAX	4.7	17	8.4	2.6	31	15	19	11	38	12	9.2	12
MIN	.33	.41	.72	.55	.90	1.7	1.6	1.3	1.8	.38	.19	.31
CFSM	.66	1.85	2.06	.65	7.68	2.83	4.41	2.95	6.07	1.94	1.37	1.73
IN.†	.77	2.07	2.37	.75	7.96	3.26	4.92	3.40	6.77	2.24	1.58	1.92
IN.#	3.13	3.59	2.17	0.34	4.81	1.87	6.03	5.25	10.49	6.69	3.86	5.48

WTR YR 1981 TOTAL 1451.90 MEAN 3.98 MAX 38 MIN .19 CFSM 2.80 IN† 38.01 IN# 53.71

† Runoff.
Rainfall.

OHIO RIVER MAIN STEM

03111534 OHIO RIVER AT MARTINS FERRY, OH
(Formerly published as 03112500 Ohio River at Wheeling, WV)

LOCATION.--Lat 40°06'18", long 80°42'31", Belmont County, Ohio, Hydrologic Unit 05030106, on right bank at water plant at Martins Ferry, Ohio, 300 ft (91 m) downstream from Old Lock 12, 0.9 mi (1.4 km) downstream from Glens Run (Ohio), 3.0 mi (4.8 km) upstream from Wheeling Creek (Ohio), and at mile 87.5 (140.8 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--24,700 mi² (64,000 km²), approximately.

PERIOD OF RECORD.--January to March 1844, January 1905 to December 1906 (gage heights only), December 1906 to February 1907, March to April 1913, February to April 1936, December 1936 to February 1937 (published as "at Wheeling"), October 1978 to current year. Monthly discharge for some periods published in WSP 1305. Gage-height records collected in this vicinity since 1882 are in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 610.80 ft (186.172 m) National Geodetic Vertical Datum of 1929. See WSP 1305 for history of gages prior to 1978. Auxiliary water-stage recorder 12.9 mi (20.8 km) downstream from base gage at same datum.

REMARKS.--Records good except those below 18,000 ft³/s (510 m³/s), which are poor. Flow regulated by Ohio River system of locks, dams, and reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 466,000 ft³/s (13,200 m³/s) Mar. 19, 1936, gage height 55.2 ft (16.82 m); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 267,000 ft³/s (7,560 m³/s) Feb. 21; maximum gage height, 34.23 ft (10.433 m) Feb. 22; minimum gage height, 9.66 ft (2.944 m) Oct. 23, discharge not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8990	29000	38000	21800	27000	133000	56500	137000	39400	37000	23000	16500
2	9830	26000	34800	20800	55800	132000	58100	101000	40000	30500	21600	22600
3	9450	23000	43000	20600	84000	122000	48200	96300	37500	25400	17700	32300
4	12600	21000	54800	19300	60000	108000	46000	79400	46200	18900	18000	42300
5	9080	22000	47200	16400	46000	99200	42100	70100	55900	22600	17700	50300
6	11400	20000	39600	16200	37400	97000	48300	66100	76500	22000	17300	46600
7	11900	18000	38300	16100	35400	93700	46300	63300	123000	23000	14500	33600
8	11400	19000	34400	19200	34200	80200	38900	46500	101000	22100	17600	29000
9	10200	17000	42200	16900	27800	69800	33600	39100	87300	19900	17600	30500
10	12100	19000	56100	14900	28900	58000	33800	31200	147000	15000	22400	34100
11	11600	24000	69900	16000	44800	54700	29700	28800	122000	16300	15700	25900
12	10100	23000	64400	17000	63000	45400	94500	32500	95400	15200	16600	22200
13	10100	23000	53700	15000	61400	37400	153000	41200	76100	13900	18000	21100
14	11500	20000	46800	16000	60700	39300	156000	41400	74400	17400	14900	17200
15	8490	19500	40600	18000	63200	37000	125000	44700	91600	13800	17200	19100
16	13500	16400	36800	20000	57700	36000	110000	63600	89000	12000	13900	22400
17	13400	17300	33800	19000	76200	43800	100000	60000	82400	12000	17200	27400
18	11400	22800	30900	16000	106000	42800	90200	54000	62500	11000	18300	24400
19	12800	36500	29300	15000	134000	38200	88900	49000	50800	10000	18100	23800
20	14900	30100	23400	17000	190000	38100	77900	59200	36900	11000	13800	19800
21	15400	25900	22200	17000	250000	33000	69000	69100	36700	23000	9300	18300
22	13200	23900	15600	19000	247000	30500	57500	54200	44700	22600	9000	18100
23	13600	22300	18800	19000	176000	30000	51700	43800	53300	18400	8000	17800
24	11900	30000	20200	21600	185000	28800	54600	31600	38500	15900	6600	18000
25	21200	55000	22200	19000	179000	31400	61900	23200	44100	13300	8000	14000
26	33100	60000	15700	20000	160000	33500	64600	19400	52700	20900	8400	13000
27	42900	56000	15600	32000	151000	36500	59300	26300	41800	17400	7600	11000
28	37700	50000	16700	40000	138000	51100	56000	22600	37200	23300	7000	12000
29	35000	49000	17000	36000	---	60600	75400	28100	27500	33500	7700	12000
30	33000	42000	19600	31000	---	58700	140000	31400	23000	31600	8000	10000
31	32000	---	20100	27200	---	54800	---	32700	---	33100	12000	---
TOTAL	513740	860700	1061700	633000	2779500	1854500	2167000	1586800	1934400	622000	442700	705300
MEAN	16570	28690	34250	20420	99270	59820	72230	51190	64480	20060	14280	23510
MAX	42900	60000	69900	40000	250000	133000	156000	137000	147000	37000	23000	50300
MIN	8490	16400	15600	14900	27000	28800	29700	19400	23000	10000	6600	10000
CAL YR 1980 TOTAL	15147540			MEAN 41390		MAX 160000		MIN 8490				
WTR YR 1981 TOTAL	15161340			MEAN 41540		MAX 250000		MIN 6600				

WHEELING CREEK BASIN

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03112000 WHEELING CREEK AT ELM GROVE, WV

LOCATION.--Lat 40°02'40", long 80°39'40", Ohio County, Hydrologic Unit 05030106, on right bank at highway bridge at Elm Grove, 500 ft (152 m) downstream from Little Wheeling Creek, and at mile 7.7 (12.4 km).

DRAINAGE AREA.--282 mi² (730 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for October 1940, published in WSP 1907.

REVISED RECORDS.--WSP 1305: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 667.59 ft (203.481 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for October and February and those for periods of no gage-height record, Dec. 14 to Jan. 21 and Feb. 26 to Mar. 24, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--41 years, 338 ft³/s (9.572 m³/s), 16.28 in/yr (414 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft³/s (626 m³/s) Dec. 30, 1942, gage height, 13.67 ft (4.167 m), from rating curve extended above 15,000 ft³/s (430 m³/s) on basis of slope-area measurements at gage heights 13.2 ft (4.02 m) and 13.67 ft (4.167 m); minimum, 0.1 ft³/s (0.003 m³/s) Oct. 7, 1963, Sept. 26, 27, 1964; minimum gage height, 0.63 ft (0.192 m) Aug. 31, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,000 ft³/s (425 m³/s) Apr. 13, gage height, 10.64 ft (3.243 m), no other peak above base of 6,000 ft³/s (170 m³/s); minimum, 9.0 ft³/s (0.25 m³/s) Aug. 30, minimum gage height, 1.15 ft (0.351 m) Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	68	493	150	329	1600	206	417	631	1140	263	101
2	56	63	466	170	3100	880	191	340	396	467	191	320
3	58	59	660	140	1490	630	169	273	375	263	157	980
4	62	60	493	120	790	410	159	233	1170	191	239	1740
5	56	63	398	110	490	920	256	206	2150	164	202	580
6	53	61	366	120	340	1700	234	224	3770	141	134	260
7	49	55	398	140	290	880	193	221	1760	114	111	166
8	45	58	560	120	250	520	176	170	903	92	99	179
9	43	58	770	105	230	380	191	144	1010	77	84	148
10	41	60	1340	94	339	320	205	132	2510	69	71	102
11	38	60	864	83	1620	280	283	302	1730	60	63	79
12	35	52	650	75	1130	240	6530	477	906	51	57	67
13	32	47	221	70	740	210	8090	341	654	97	55	59
14	32	44	190	74	580	180	3190	271	3130	142	47	53
15	30	42	170	81	480	160	2090	711	1760	78	52	94
16	28	42	150	77	620	180	1330	664	882	55	55	135
17	27	50	140	75	1240	520	953	446	768	47	50	183
18	47	275	160	68	1380	490	960	332	450	40	40	131
19	53	320	150	63	1200	450	840	315	309	34	34	210
20	35	215	120	60	2170	390	695	412	242	73	30	169
21	31	195	94	55	2380	350	540	304	215	174	27	112
22	34	205	78	195	1410	320	435	237	631	208	24	87
23	45	195	87	192	2040	290	548	196	568	101	22	72
24	30	430	110	189	2290	260	793	167	274	64	21	61
25	130	853	93	178	1350	257	700	141	606	49	20	52
26	430	550	85	427	660	234	581	131	1090	110	16	48
27	210	560	79	1210	440	270	606	160	419	957	15	44
28	130	740	73	748	400	266	652	305	253	1810	14	40
29	110	650	79	470	---	241	628	816	184	3220	12	34
30	89	540	110	271	---	249	523	465	365	994	86	32
31	75	---	130	204	---	240	---	1260	---	433	74	---
TOTAL	2191	6670	9777	6134	29778	14317	32947	10813	30111	11515	2365	6338
MEAN	70.7	222	315	198	1064	462	1098	349	1004	371	76.3	211
MAX	430	853	1340	1210	3100	1700	8090	1260	3770	3220	263	1740
MIN	27	42	73	55	230	160	159	131	184	34	12	32
CFSM	.25	.79	1.12	.70	3.77	1.64	3.89	1.24	3.56	1.32	.27	.75
IN.	.29	.88	1.29	.81	3.93	1.89	4.35	1.43	3.97	1.52	.31	.84

CAL YR 1980 TOTAL 177196 MEAN 484 MAX 10900 MIN 27 CFSM 1.72 IN 23.37
WTR YR 1981 TOTAL 162956 MEAN 446 MAX 8090 MIN 12 CFSM 1.58 IN 21.50

WHEELING CREEK BASIN

03112000 WHEELING CREEK AT ELM GROVE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

		STRE- AM- FLOW, INSTAN- TANEOUS	SPE- CIFIC CON- DUCT- ANCE	PH	TEMPER- ATURE	HARD- NESS	CALCIUM DIS- SOLVED	MAGNE- SIUM, DIS- SOLVED	SODIUM, DIS- SOLVED	SODIUM AD- SORP- TION	ALKA- LITY FIELD
DATE	TIME	(CFS)	(UMHOS)	(UNITS)	(DEG C)	(MG/L AS CAC03)	(MG/L AS CA)	(MG/L AS MG)	(MG/L AS NA)	RATIO	(MG/L AS CAC03)
OCT 29...	1535	109	310	8.2	9.0	--	--	--	--	--	--
NOV 12...	1450	52	340	8.1	6.0	--	--	--	--	--	--
DEC 10...	0835	1170	--	--	5.5	--	--	--	--	--	--
JAN 21...	1515	53	335	8.1	.0	--	--	--	--	--	--
MAR 24...	1555	274	295	8.5	6.0	--	--	--	--	--	--
MAY 27...	0900	148	350	7.8	18.0	--	--	--	--	--	--
JUN 17...	0835	934	241	7.7	19.0	--	--	--	--	--	--
JUL 21...	1000	115	420	8.2	24.0	180	59	8.3	17	.6	130
AUG 20...	0830	30	440	7.8	18.0	--	--	--	--	--	--
		SULFATE DIS- SOLVED	CHLO- RIDE, DIS- SOLVED	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED	SOLIDS, DIS- SOLVED	IRON, TOTAL RECOV- ERABLE	IRON, SUS- PENDED RECOV- ERABLE	IRON, DIS- SOLVED	MANGA- NESE, TOTAL RECOV- ERABLE	MANGA- NESE, SUS- PENDED RECOV.	MANGA- NESE, DIS- SOLVED
DATE	AS S04)	(MG/L AS CL)	(MG/L)	(TONS PER AC-FT)	(TONS PER DAY)	(UG/L AS FE)	(UG/L AS FE)	(UG/L AS FE)	(UG/L AS MN)	(UG/L AS MN)	(UG/L AS MN)
JUL 21...	54	16	255	.35	79.2	2200	2200	10	100	80	20

OHIO RIVER MAIN STEM

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03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV
(National Stream-quality accounting network station)

LOCATION.--Lat 40°00'54", long 80°44'20", Marshall County, Hydrologic Unit 05030106, at Bellaire Toll Bridge, at Benwood, and at mile 94.3 (151.7 km).

DRAINAGE AREA.--Approximately 25,070 mi² (64,931 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
NOV 13...	0900	23000	379	6.9	9.3	5.3	7.9	1.6	680	79	120	89
JAN 21...	1015	23200	435	6.7	2.5	1.3	13.4	2.1	390	240	130	95
MAR 25...	0815	30000	370	7.6	5.5	5.5	12.7	1.7	200	50	130	--
MAY 27...	1130	27800	270	6.9	18.0	4.3	9.5	1.2	733	100	99	--
JUL 29...	0900	35200	440	7.2	22.5	120	7.2	1.9	6800	7300	170	--
SEP 03...	0830	14700	480	7.6	24.0	95	7.2	1.9	K12300	K7630	180	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 13...	34	8.2	20	26	.8	3.4	92	19	.3	4.7	226	204
JAN 21...	37	9.9	26	29	1.0	2.4	100	28	.3	6.2	250	237
MAR 25...	36	9.5	19	24	.7	2.3	99	21	.2	6.1	236	214
MAY 27...	27	7.6	14	23	.6	1.6	72	12	.2	4.4	176	160
JUL 29...	51	11	21	21	.7	3.3	120	20	.3	5.9	291	270
SEP 03...	51	13	25	23	.8	3.1	120	28	.3	4.2	304	279

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N03)
NOV 13...	.31	.88	.88	.510	.520	.26	.24	.77	.01	.76	1.7	7.3
JAN 21...	.34	.91	.90	.980	.980	.32	.22	1.30	.10	1.2	2.2	9.8
MAR 25...	.32	1.2	1.1	.470	.490	.10	.07	.57	.01	.56	1.8	7.8
MAY 27...	.24	.81	.75	.160	--	.55	.33	.71	.23	.48	1.5	6.7
JUL 29...	.40	1.3	1.3	.320	.270	.78	.28	1.10	.55	.55	2.4	11
SEP 03...	.41	1.3	1.3	.200	.210	.33	.35	.53	.00	.56	1.8	8.1

K Results based on colony count outside the acceptable range (non-ideal colony count).

OHIO RIVER MAIN STEM

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 13...	.080	.040	1	0	1	100	50	50	3	2	1	30
JAN 21...	.100	.030	--	--	--	--	--	--	--	--	--	--
MAR 25...	.040	<.010	0	0	0	200	100	60	0	--	<1	20
MAY 27...	.010	<.010	--	--	--	--	--	--	--	--	--	--
JUL 29...	.340	.030	3	2	1	100	40	60	2	1	1	20
SEP 03...	.380	.260	3	1	2	100	0	100	<1	--	<1	20

DATE	CHRO- MIUM, SUS- PENDE RECOV- (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
NOV 13...	20	10	5	3	2	14	12	2	930	800	130	10
JAN 21...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 25...	--	<10	7	1	6	3	1	2	1100	--	<10	8
MAY 27...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	10	10	6	4	2	14	12	2	10000	10000	10	19
SEP 03...	10	10	5	--	<1	13	9	4	5400	5400	20	11

DATE	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)
NOV 13...	5	5	280	10	270	.1	--	<.1	10	2	8	0
JAN 21...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 25...	3	5	410	60	350	<.1	--	<.1	18	6	12	0
MAY 27...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	12	7	480	430	50	5.4	.0	5.4	22	14	8	1
SEP 03...	7	4	260	200	60	1.0	.0	1.8	11	8	3	1

DATE	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)
NOV 13...	0	0	0	0	0	50	30	20	--	3.2	.4	2400
JAN 21...	--	--	--	--	--	--	--	--	2.7	--	--	--
MAR 25...	0	0	0	0	0	60	50	10	--	1.4	.2	770
MAY 27...	--	--	--	--	--	--	--	--	1.8	--	--	3600
JUL 29...	0	1	1	--	<1	60	60	4	--	2.2	1.2	4500
SEP 03...	--	<1	<1	--	<1	60	--	<10	--	3.3	>3.0	2000

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 13,80 0900	MAR 25,81 0815	MAY 27,81 1130	JUL 29,81 0900	SEP 3,81 0830					
TOTAL CELLS/ML	2400	770	3600	4500	2000					
DIVERSITY: DIVISION	1.7	0.8	1.0	1.5	1.0					
..CLASS	1.7	0.8	1.0	1.5	1.0					
...ORDER	2.3	0.9	2.2	2.3	1.5					
....FAMILY	2.6	0.9	2.2	2.8	1.9					
.....GENUS	3.4	0.9	2.8	3.0	2.6					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)										
..BACILLARIOPHYCEAE										
...ACHNANTHALES										
....ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	28	1	56	3
..BACILLARIALES										
...NITZSCHIALES										
....NITZSCHIA	13	1	--	-	180	5	120	3	56	3
..EUPODISCALES										
...COSCINODISCALES										
....CYCLOTELLA	280	12	--	-	730#	21	28	1	220	11
....MELOSIRA	310	13	--	-	880#	25	230	5	730#	36
....STEPHANODISCUS	26	1	--	-	*	0	--	-	--	-
..FRAGILARIALES										
...FRAGILARIALES										
....ASTERIONELLA	52	2	--	-	880#	25	--	-	--	-
....FRAGILARIA	--	-	--	-	*	0	55	1	--	-
....SYNEURA	--	-	--	-	64	2	28	1	--	-
..NAVICULALES										
...NAVICULACEAE										
....NAVICULA	--	-	13	2	26	1	190	4	28	1
..SURIPELLALES										
...SURIPELLACEAE										
....SURIPELLA	--	-	--	-	--	-	55	1	--	-
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....DICTYOSPHAERIACEAE										
....DICTYOSPHAERIUM	--	-	--	-	--	-	180	4	170	8
...HYDROUICITYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	220	5	--	-
...MICRACTINIACEAE										
....MICRACTINIUM	26	1	--	-	--	-	--	-	--	-
..OOCYSTACEAE										
...ANKISTRODESMUS	77	3	--	-	52	1	28	1	--	-
....CHODATELLA	--	-	--	-	--	-	--	-	56	3
....KIRCHNERIELLA	--	-	--	-	--	-	69	2	--	-
....OOCYSTIS	--	-	--	-	--	-	55	1	--	-
...SELENASTRUM	13	1	--	-	--	-	69	2	--	-
..SCENEDESMACEAE										
....ACTINASTRUM	210	9	--	-	--	-	--	-	--	-
....COELASTRUM	90	4	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	440	10	450#	22
...SCENEDESMUS	360#	15	--	-	320	9	55	1	220	11
....TETRASTRUM	52	2	--	-	--	-	--	-	--	-
..VULVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	26	1	77	10	210	6	69	2	28	1
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	*	0	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	26	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
....CHROOCOCCACEAE										
....ANACYSTIS	460#	19	13	2	130	4	2000#	46	--	-
..NOSTOCALES										
...NOSTOCACEAE										
....ANABAENA	77	3	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	640#	83	--	-	--	-	--	-
..OSCILLATORIALES										
...OSCILLATORIALES										
....OSCILLATORIA	280	12	--	-	--	-	470	10	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
....TRACHELOMONAS	39	2	26	3	26	1	55	1	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM: MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

LITTLE GRAVE CREEK BASIN

03113706 LITTLE GRAVE CREEK AT MOUNDSVILLE, WV

LOCATION.--Lat 39°55'45", long 80°44'54", Marshall County, Hydrologic Unit 05030106, at U.S. Highway 250 bridge, and at mile 1.0 (1.6 km).

DRAINAGE AREA.--11.9 mi² (30.8 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
29...	1330	1.4	520	7.2	6.0	10.0	1	.00
NOV								
12...	1035	.18	615	7.1	8.0	7.9	29	.01
DEC								
10...	0945	29	500	7.3	5.0	11.5	25	2.0
JAN								
22...	0850	2.4	425	7.5	1.0	12.4	1	.01
MAR								
24...	1045	7.6	380	8.2	3.0	13.5	0	.00
APR								
21...	1300	13	435	7.6	12.0	11.1	2	.07
MAY								
26...	1445	3.6	540	7.7	18.0	8.9	4	.04
JUN								
11...	1115	150	340	--	--	--	1403	568
11...	1215	155	320	--	--	--	4880	2040
11...	1315	160	319	--	--	--	719	311
11...	1415	155	320	--	--	--	504	211
11...	1515	150	322	--	--	--	347	141
17...	1040	22	440	7.7	16.5	8.2	13	.77
25...	0745	14	329	--	--	--	469	18
25...	0845	70	360	--	--	--	1520	287
25...	0947	82	339	--	--	--	1890	418
25...	1046	67	318	--	--	--	1180	213
25...	1146	58	318	--	--	--	669	105
25...	1240	49	254	--	--	--	649	86
25...	1345	39	335	--	--	--	518	55
25...	1440	21	353	--	--	--	161	9.1
JUL								
28...	1430	12	380	6.8	23.0	7.7	89	2.9
28...	1515	31	320	--	--	--	293	25
28...	1615	21	276	--	--	--	532	30
28...	1915	97	245	--	--	--	1020	267
28...	2015	1100	277	--	--	--	21600	64200
28...	2115	770	237	--	--	--	6460	13400
28...	2215	220	358	--	--	--	2420	1440
28...	2315	126	370	--	--	--	1140	388
AUG								
19...	1320	.11	625	6.8	17.0	7.8	26	.10
SEP								
02...	1300	7.2	430	6.8	21.0	8.0	36	.70
03...	0958	40	360	--	--	--	449	48
03...	1100	16	342	--	--	--	310	13
03...	1159	5.6	340	--	--	--	201	3.0
04...	0835	125	289	--	--	--	349	118
04...	0936	95	292	--	--	--	267	68
04...	1000	96	286	--	18.0	--	201	52
04...	1020	82	304	--	--	--	196	43
04...	1130	82	313	--	--	--	125	28
04...	1230	70	315	--	--	--	100	19

LITTLE GRAVE CREEK BASIN

165

03113708 PAR RUN AT MOUNDSVILLE, WV

LOCATION.--Lat 39°55'35", long 80°44'34", Marshall County, Hydrologic Unit 05030106, 1000 ft (304 m) upstream from Jefferson Ave. bridge, and at mile 0.3 (0.5 km).

DRAINAGE AREA.--1.30 mi² (3.37 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
29...	1235	.66	660	7.3	14.0	9.3	4	.01
NOV								
12...	0950	.50	625	7.5	13.0	9.6	37	.05
DEC								
10...	1020	2.6	600	7.4	7.0	11.0	9	.06
JAN								
22...	0950	.45	650	7.5	4.0	11.7	74	.09
MAR								
24...	0945	.86	425	7.5	5.0	12.2	3	.01
APR								
21...	1240	1.6	610	7.0	14.0	9.3	6	.03
MAY								
26...	1345	.71	640	7.7	20.0	8.6	0	.00
JUN								
11...	1135	26	420	--	--	--	335	24
11...	1234	24	396	--	--	--	242	16
11...	1333	1.0	421	--	--	--	207	.56
17...	0950	3.3	595	7.7	17.0	8.5	13	.12
25...	0725	22	289	--	--	--	1505	89
25...	0826	9.6	390	--	--	--	1085	28
25...	0926	9.0	465	--	--	--	300	7.3
25...	1026	7.6	488	--	--	--	112	2.3
JUL								
13...	1100	.60	1490	--	--	--	279	.45
13...	1200	5.0	413	--	--	--	186	2.5
13...	1300	16	435	--	--	--	384	17
13...	1400	9.5	580	--	--	--	871	22
13...	1500	1.0	604	--	--	--	230	.62
21...	1428	165	270	--	--	--	2390	1070
21...	1527	10	390	--	--	--	727	20
21...	1628	1.3	522	--	--	--	284	1.0
28...	1340	1.4	680	6.5	23.0	7.4	22	.08
28...	1800	165	193	--	--	--	1730	771
28...	1900	75	321	--	--	--	8320	1690
28...	2000	21	360	--	--	--	1200	68
28...	2100	9.0	435	--	--	--	362	8.8
AUG								
19...	1300	.32	590	7.0	21.0	8.7	14	.01
SEP								
02...	1210	.59	655	6.9	21.0	7.4	9	.01
03...	0921	3.3	505	--	--	--	85	.76
03...	1022	1.8	530	--	--	--	92	.45
04...	0820	9.5	532	--	--	--	63	1.6
04...	0920	7.6	525	--	20.0	--	58	1.2
04...	1020	6.0	598	--	--	--	83	1.3

GRAVE CREEK BASIN

03113732 MIDDLE GRAVE CREEK AT KNOXVILLE, WV

LOCATION.--Lat 39°53'07", long 80°38'29", Marshall County, Hydrologic Unit 05030106, at site 175 (53 m) upstream from State Route 17/3, 5.1 mi (8.2 km) southeast of Moundsville, and at mile 9.3 (15.0 km).

DRAINAGE AREA.--7.73 mi² (20.02 km²).

PERIOD OF RECORD.--Water years 1978 to September, 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCTI- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT									
29...	1115	3.4	340	7.7	5.0	11.9	1300	39000	1800
NOV									
12...	1250	1.0	340	8.2	5.0	12.1	130	1200	100
DEC									
10...	1220	25	330	8.0	5.5	12.3	1200	2300	670
JAN									
20...	1405	2.5	320	7.6	.0	13.7	330	3600	170
FEB									
18...	1145	28	295	7.1	6.5	11.4	690	10000	400
MAR									
24...	1345	7.0	210	8.5	7.0	11.6	280	700	125
APR									
21...	1020	10	265	7.3	8.0	11.8	300	510	56
MAY									
26...	1100	4.2	338	8.2	16.5	10.4	710	8000	210
JUN									
16...	1100	19	293	7.6	18.5	8.4	2800	12000	1800
JUL									
28...	1100	14	267	6.5	20.0	8.1	15000	65000	53000
AUG									
19...	1215	.27	388	7.4	15.0	9.9	500	1700	3300
SEP									
02...	0950	7.1	313	7.0	19.0	8.3	5500	12000	10000

GRAVE CREEK BASIN

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03113738 MIDDLE GRAVE CREEK AT MOUNDSVILLE, WV

LOCATION.--Lat 39°54'46", long 80°43'43", Marshall County, Hydrologic Unit 05030106, at 12th Street bridge, and at mile 0.8 (1.3 km).

DRAINAGE AREA.--28.6 mi² (70.1 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
29...	1000	6.7	425	7.7	5.0	11.6	1	.02
NOV								
12...	1140	3.1	440	8.0	5.0	12.8	9	.08
DEC								
10...	1115	90	420	7.8	5.0	11.5	38	9.2
JAN								
22...	1055	8.3	380	7.8	.5	13.9	1	.02
MAR								
24...	1230	23	410	8.4	6.0	13.2	0	.00
APR								
21...	1010	34	350	7.3	8.5	11.4	6	.55
MAY								
26...	1225	14	410	7.8	17.5	9.7	1	.04
JUN								
11...	1158	540	221	--	--	--	766	1120
11...	1259	530	226	--	--	--	600	859
11...	1358	430	230	--	--	--	810	940
16...	1225	72	360	7.7	21.0	7.9	34	6.6
25...	0700	115	268	--	--	--	694	215
25...	0801	150	311	--	--	--	383	155
25...	0900	195	298	--	--	--	972	512
25...	1001	285	270	--	--	--	1200	923
25...	1101	230	261	--	--	--	926	575
25...	1201	113	322	--	--	--	415	127
JUL								
28...	1220	57	327	6.7	22.0	8.1	204	31
28...	1530	60	286	--	--	--	245	40
28...	1630	46	305	--	--	--	210	26
28...	1930	210	318	--	--	--	3020	1710
28...	2030	425	303	--	--	--	3950	4530
28...	2130	530	271	--	--	--	3220	4610
28...	2230	710	259	--	--	--	2230	4270
28...	2330	300	250	--	--	--	1240	1000
AUG								
19...	1040	1.7	500	7.4	17.5	9.3	8	.03
SEP								
02...	1110	21	340	6.3	20.0	7.9	41	2.3
03...	0934	430	211	--	--	--	493	572
03...	1035	270	210	--	--	--	460	335
03...	1135	220	214	--	--	--	822	488
04...	0800	365	225	--	--	--	226	223
04...	0855	310	236	--	18.0	--	181	151
04...	0900	295	233	--	--	--	164	131
04...	1000	260	238	--	--	--	1521	1070
04...	1100	204	244	--	18.0	--	113	62
04...	1202	140	250	--	--	--	141	53

MIDDLE ISLAND CREEK BASIN

03114500 MIDDLE ISLAND CREEK AT LITTLE, WV

LOCATION.--Lat 39°28'30", long 80°59'50", Tyler County, Hydrologic Unit 05030201, on right bank at downstream side of highway bridge at Little, 0.1 mi (0.2 km) upstream from Stewarts Run, 5.0 mi (8.0 km) west of Middlebourne, and at mile 24.5 (39.4 km).

DRAINAGE AREA.--458 mi² (1,186 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1915 to September 1916, October 1916 to September 1922 (gage heights only), October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 631.32 ft (192.426 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to July 11, 1947, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for Dec. 19 to Feb. 15 and those for period of doubtful-or-no gage-height record, May 23 to Aug. 18, which are poor.

AVERAGE DISCHARGE.--54 years (water years 1916, 1929-81), 644 ft³/s (18.24 m³/s), 19.10 in/yr (485 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s (708 m³/s) June 26, 1950, gage height, 28.0 ft (8.53 m), from floodmarks; no flow during parts of 1922 and Sept. 1 to Nov. 4, Nov. 7-10, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1875 reached a stage of about 33.5 ft (10.2 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,000 ft³/s (250 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 2	0500	11600 329	14.56 4.438	June 7	0500	*16000 453	18.27 5.569

Minimum discharge, 4.9 ft³/s (0.14 m³/s) Sept. 2, gage height, 1.88 ft (0.573).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	75	580	405	1600	2710	355	385	1340	1500	167	5.5
2	61	56	470	580	9440	1520	304	3000	730	690	110	5.2
3	58	46	568	646	3690	902	272	1080	620	380	89	31
4	61	75	724	532	1120	674	248	688	1150	280	98	396
5	54	64	455	300	710	1940	272	485	1630	220	110	746
6	48	51	365	200	530	2900	308	420	11300	180	120	248
7	46	44	380	230	450	1210	325	385	12600	150	180	116
8	44	41	880	180	380	789	292	350	2110	130	140	77
9	41	37	1380	140	360	572	250	288	986	120	110	61
10	44	32	2680	120	487	456	230	256	1500	100	87	56
11	46	28	1200	100	2430	393	410	335	1200	86	74	56
12	39	26	688	85	1600	342	1910	1180	910	71	67	52
13	34	24	460	78	1100	296	2290	832	700	87	56	44
14	28	22	355	83	910	262	2720	580	4000	170	49	35
15	24	20	276	96	780	243	1990	3880	1700	120	52	31
16	20	19	244	91	857	297	952	3090	800	77	45	28
17	19	56	256	87	2550	550	1010	1040	680	63	38	38
18	35	1360	264	82	2960	563	3500	688	470	54	30	120
19	37	1070	220	79	1570	420	1580	1710	320	50	30	97
20	24	485	150	73	2390	360	916	5280	250	68	32	69
21	24	288	126	70	4780	320	670	1560	400	340	28	53
22	20	182	130	184	2030	280	460	808	920	540	24	45
23	18	123	144	516	3470	260	405	500	720	388	19	38
24	18	495	158	757	5830	240	1320	340	380	200	16	32
25	176	1850	140	639	1740	220	1130	270	270	130	12	28
26	730	814	130	884	988	203	832	230	990	110	9.7	25
27	390	628	120	5110	699	509	682	210	590	185	9.1	22
28	190	1160	120	2500	679	1770	538	190	320	380	7.9	19
29	130	898	150	1200	---	868	445	1130	220	2910	7.3	16
30	106	718	208	800	---	586	410	830	170	664	9.1	14
31	89	---	276	510	---	455	---	2200	---	248	6.7	---
TOTAL	2718	10787	14297	17357	56130	23110	27026	34220	49976	10691	1832.8	2603.7
MEAN	87.7	360	461	560	2005	745	901	1104	1666	345	59.1	86.8
MAX	730	1850	2680	5110	9440	2900	3500	5280	12600	2910	180	746
MIN	18	19	120	70	360	203	230	190	170	50	6.7	5.2
CFSM	.19	.79	1.01	1.22	4.38	1.63	1.97	2.41	3.64	.75	.13	.19
IN.	.22	.88	1.16	1.41	4.56	1.88	2.20	2.78	4.06	.87	.15	.21

CAL YR 1980	TOTAL	254933.0	MEAN 697	MAX 7980	MIN 18	CFSM 1.52	IN 20.71
WTR YR 1981	TOTAL	250748.5	MEAN 687	MAX 12600	MIN 5.2	CFSM 1.50	IN 20.37

MIDDLE ISLAND CREEK BASIN

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03114500 MIDDLE ISLAND CREEK AT LITTLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965, 1968-74, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 30...	1150	107	215	7.0	9.0	--	71	32	.0	19	5.6	14
DEC 09...	1120	918	110	7.0	8.5	--	--	--	.0	--	--	--
JAN 20...	1050	74	215	7.3	.5	--	64	7	.0	18	4.7	11
MAR 26...	0900	214	175	7.3	7.0	11.6	52	13	.0	14	4.2	7.4
MAY 28...	1050	193	167	7.2	19.0	--	54	6	.0	15	3.9	4.6
JUL 21...	0855	95	195	6.7	25.5	--	70	--	.0	20	4.8	8.2
AUG 19...	0740	31	265	7.4	19.0	--	81	--	.0	23	5.7	12

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 30...	29	.7	2.9	47	23	18	.0	4.3	137	110	.19	39.6
DEC 09...	--	--	--	29	--	--	--	--	--	--	--	--
JAN 20...	--	.6	--	70	25	16	--	4.4	118	116	.16	23.6
MAR 26...	--	.4	--	48	24	9.7	--	--	--	--	--	--
MAY 28...	--	.3	--	59	24	6.7	--	5.3	103	90	.14	53.7
JUL 21...	--	.4	--	48	20	10	--	--	112	--	.15	28.7
AUG 19...	--	.6	--	70	17	23	--	2.8	164	--	.22	13.7

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	BARILM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 30...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	--	--	--	--	--	--	--	--	--	--	--
JAN 20...	<.010	<.03	.49	.040	<.010	<.03	60	<1	<1	<3	<10
MAR 26...	--	--	--	--	--	--	--	--	--	--	--
MAY 28...	<.010	--	.26	.150	<.010	--	50	<1	2	<3	<10
JUL 21...	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	<.010	--	<.01	<.010	<.010	--	60	1	1	3	10

MIDDLE ISLAND CREEK BASIN

03114500 MIDDLE ISLAND CREEK AT LITTLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 30...	750	650	100	--	--	60	40	20	--	--	--	--
JAN 20...	310	260	50	13	<4	70	10	60	<10	110	<6.0	<4
MAR 26...	650	630	20	--	--	70	30	40	--	--	--	--
MAY 28...	1100	1100	40	22	7	90	40	50	<10	95	<6.0	34
JUL 21...	750	720	30	--	--	160	110	50	--	--	--	--
AUG 19...	630	620	9	10	4	100	90	13	10	150	6.0	14

OHIO RIVER MAIN STEM

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03150800 OHIO RIVER NEAR MARIETTA, OH

LOCATION.--Lat 39°23'21", long 81°29'03", Washington County, Hydrologic Unit 05030202, on right bank 1.5 mi (2.4 km) southwest of Marietta, 2.0 mi (3.2 km) downstream from Muskingum River, and at mile 174.3 (280.4 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--35,600 mi² (92,200 km²), approximately.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 567.12 ft (172.858 m) Sandy Hook datum.

REMARKS.--No record Feb. 13, 14 due to equipment malfunctions. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 38.52 ft (11.741 m) Feb. 27, 1979; minimum, 10.83 ft (3.301 m) Oct. 6, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 31.77 ft (9.683 m) Feb. 22; minimum, 14.95 ft (4.557 m) Jan. 19, Sept. 26.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.87	15.91	16.76	15.71	15.99	23.94	17.54	24.15	17.52	16.51	15.81	15.62
2	15.48	15.94	16.55	15.93	21.33	23.78	17.70	22.66	17.40	15.88	16.20	16.00
3	15.24	15.75	16.99	16.10	21.69	22.77	16.80	21.57	17.11	16.03	16.35	16.46
4	15.49	15.69	17.93	15.74	19.33	21.56	16.46	20.05	17.58	15.80	15.85	17.13
5	15.51	15.90	17.36	15.59	17.15	21.55	17.39	18.95	18.52	15.61	16.17	17.49
6	15.64	15.76	16.60	15.67	16.84	21.80	18.34	18.50	20.04	15.72	16.49	17.59
7	16.08	15.57	16.53	15.81	16.55	20.84	18.01	18.65	25.38	15.67	15.85	16.81
8	15.96	15.68	16.98	16.16	16.67	19.81	17.09	17.98	25.21	16.21	16.20	16.06
9	15.14	15.92	17.35	15.74	16.73	18.51	16.66	17.02	22.60	15.75	16.42	16.40
10	15.21	15.88	18.49	15.69	16.56	17.92	16.66	16.39	20.47	15.38	15.73	16.58
11	15.70	16.08	19.02	15.91	17.67	18.02	16.04	15.93	25.71	15.71	15.56	16.54
12	15.46	15.94	18.72	16.17	18.49	17.69	19.59	17.19	24.81	15.55	15.89	15.81
13	15.46	15.88	17.79	15.70	---	16.86	26.17	17.32	22.28	15.44	16.19	15.58
14	15.70	16.20	17.40	16.00	---	16.65	25.86	17.43	21.25	15.60	16.11	15.48
15	15.86	16.25	16.95	16.36	18.02	16.65	24.08	18.07	25.09	16.36	15.88	15.62
16	15.50	15.81	16.42	16.48	17.87	16.65	22.46	19.54	23.01	16.68	15.79	15.67
17	15.53	15.62	16.25	16.12	19.41	17.02	22.35	19.54	20.29	15.97	15.65	16.62
18	15.45	15.94	16.15	15.92	21.58	16.88	22.11	18.56	18.08	15.49	15.79	16.58
19	15.51	16.42	16.23	15.35	22.99	16.48	22.00	17.76	18.01	15.66	16.03	16.17
20	15.49	16.69	15.82	15.11	25.99	16.34	20.81	19.03	19.30	15.79	15.98	15.72
21	15.34	15.84	16.23	15.38	30.19	16.05	19.60	19.55	18.06	16.17	15.83	15.59
22	15.49	15.91	15.87	16.04	31.56	15.80	19.06	18.45	17.45	16.16	15.94	15.52
23	15.37	15.62	15.81	16.63	30.32	16.24	18.42	17.31	16.67	17.31	16.08	15.31
24	15.45	15.55	16.03	16.27	28.91	16.48	19.29	16.64	16.27	16.02	15.97	15.26
25	16.05	16.49	16.07	15.69	28.05	16.26	19.38	15.97	17.15	16.18	15.84	15.13
26	16.53	17.48	15.72	15.67	26.18	16.03	19.20	16.13	17.08	15.65	15.86	15.07
27	16.68	17.62	15.82	17.02	24.74	16.34	18.78	16.05	16.10	15.43	15.71	15.58
28	16.44	17.72	15.86	17.70	23.80	17.28	18.25	16.57	16.10	15.61	15.57	15.82
29	15.92	17.71	16.18	17.06	---	17.91	18.43	16.69	16.11	15.85	15.53	15.74
30	15.79	17.48	15.79	16.48	---	17.49	21.73	16.94	16.40	16.22	15.72	15.87
31	15.70	---	15.46	16.11	---	16.87	---	17.16	---	16.37	15.89	---
MEAN	15.68	16.21	16.68	16.04	---	18.21	19.54	18.19	19.57	15.93	15.93	16.03
MAX	16.68	17.72	19.02	17.70	---	23.94	26.17	24.15	25.71	17.31	16.49	17.59
MIN	15.14	15.55	15.46	15.11	---	15.80	16.04	15.93	16.10	15.38	15.53	15.07

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV

LOCATION.--Lat 38°44'35", long 80°31'36", Braxton County, Hydrologic Unit 05030203, on right bank on State Secondary Route 24/1, 200 ft (61 m) upstream from footbridge at Gregory, 3.9 mi (6.2 km) west of Wildcat, and at mile 138.6 (223.1 km).

DRAINAGE AREA.--112 mi² (290 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 850.00 ft (259.080 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for Dec. 20 to Feb. 15, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--7 years, 237 ft³/s (6.712 m³/s), 28.74 in/yr (730 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,090 ft³/s (201 m³/s) Jan. 26, 1978, gage height, 12.62 ft (3.847 m); minimum, 1.6 ft³/s (0.045 m³/s) Aug. 4, 5, 1975; minimum gage height, 3.74 ft (1.140 m) Oct. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	1100	3490 98.8	9.79 2.984	June 4	2300	4110 116	10.41 3.173
May 31	0200	2950 83.5	9.25 2.819	June 6	1500	*5490 155	11.53 3.514

Minimum discharge, 1.6 ft³/s (0.045 m³/s) Aug. 31, gage height, 3.59 ft (1.094 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	41	218	167	150	1020	207	416	993	126	49	3.7
2	9.5	33	279	167	640	788	339	672	1030	93	34	6.3
3	12	27	469	130	620	504	301	460	629	68	27	35
4	14	23	353	120	330	345	235	296	1720	51	27	74
5	16	24	246	114	210	416	250	207	1970	131	24	78
6	16	22	191	114	160	675	271	187	3230	267	52	40
7	12	18	172	111	160	512	242	214	1440	141	98	25
8	9.7	17	228	104	170	337	209	179	561	94	77	172
9	9.2	18	296	98	170	244	189	156	329	70	54	294
10	8.3	29	625	93	170	193	173	133	1050	60	38	108
11	7.7	31	474	88	410	165	153	226	726	54	30	63
12	6.8	24	317	83	550	141	144	500	367	40	31	41
13	6.3	21	225	78	425	126	130	472	216	32	30	30
14	6.1	19	162	71	335	113	121	317	158	33	23	24
15	5.6	19	127	70	245	101	126	687	114	28	19	584
16	5.6	19	112	67	227	143	111	594	87	23	18	983
17	5.4	45	98	64	238	196	209	385	81	20	22	338
18	5.6	773	79	62	268	205	1080	300	69	17	18	159
19	5.8	336	74	72	266	193	795	1190	55	15	14	119
20	6.3	177	55	93	665	175	486	1660	372	13	11	91
21	8.0	117	32	121	2540	159	298	741	267	13	9.2	66
22	7.7	85	42	293	1190	151	226	375	179	33	7.6	50
23	7.1	67	59	379	1100	169	201	223	185	39	6.3	40
24	6.3	1110	68	350	1210	253	326	156	126	25	5.3	33
25	49	1280	110	290	706	271	320	117	99	56	4.5	27
26	145	609	100	320	451	242	279	96	155	39	3.6	24
27	61	399	110	630	310	414	229	94	108	54	3.0	21
28	40	343	120	469	282	583	184	336	79	60	2.6	19
29	71	276	122	304	---	398	183	861	59	207	2.1	17
30	71	214	136	170	---	293	303	924	62	129	1.9	15
31	54	---	144	130	---	216	---	1950	---	78	1.9	---
TOTAL	697.5	6216	5843	5422	14198	9741	8320	15124	16516	2109	744.0	3580.0
MEAN	22.5	207	188	175	507	314	277	488	551	68.0	24.0	119
MAX	145	1280	625	630	2540	1020	1080	1950	3230	267	98	983
MIN	5.4	17	32	62	150	101	111	94	55	13	1.9	3.7
CFSM	.20	1.85	1.68	1.56	4.53	2.80	2.47	4.36	4.92	.61	.21	1.06
IN.	.23	2.06	1.94	1.80	4.72	3.24	2.76	5.02	5.49	.70	.25	1.19
CAL YR 1980	TOTAL	82011.3	MEAN	224	MAX	3730	MIN	5.4	CFSM	2.00	IN	27.24
WTR YR 1981	TOTAL	88510.5	MEAN	242	MAX	3230	MIN	1.9	CFSM	2.16	IN	29.40

LITTLE KANAWHA RIVER BASIN

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03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969, 1976 to 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to September 1981 (discontinued).

WATER TEMPERATURES: June to December 1979, October 1980 to September 1981 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: June 1979 to September 1981 (discontinued).

REMARKS.--Sediment samples were taken once daily by an observer and hourly by automatic sampler on rises. Digital conductance recorder with servo unit.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 134 micromhos Oct. 24, 1981; minimum, 35 micromhos Apr. 28, 1980.

WATER TEMPERATURES: Maximum daily, 26.0°C July 20, 21, 23-28, 30, 31, Sept. 2, 3; minimum daily, 0.0°C Feb. 4, 1981.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,180 mg/L Nov. 2, 1979; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 14,900 tons (13,500 tonnes) Apr. 9, 1980; minimum daily, 0 tons (0 tonnes) on many days.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum, 134 micromhos Oct. 24; minimum, 38 micromhos May 31, June 7.

WATER TEMPERATURES: Maximum daily, 26.0°C July 20, 21, 23-28, 30, 31, Sept. 2, 3; minimum daily, 0.0°C Feb. 4.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 335 mg/L June 6; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 3,260 tons (2,960 tonnes) June 6; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)
OCT											
08...	1000	9.8	50	6.7	11.0	9.1	25	--	21	13	.0
NOV											
06...	0910	23	50	6.4	6.0	10.2	0	36	16	10	.0
24...	1700	--	46	--	--	--	--	--	--	--	--
DEC											
02...	0900	257	<0	6.2	5.5	11.8	18	720	14	11	.0
JAN											
14...	1045	71	<50	8.1	.5	13.6	<10	19	13	4	.0
FEB											
04...	0900	344	52	5.3	.0	12.9	<10	46	14	12	.0
MAR											
05...	0900	320	46	6.4	5.5	12.0	--	44	--	--	.0
APR											
08...	0830	218	43	5.9	10.0	10.6	<10	120	13	10	.0
MAY											
06...	0845	169	65	6.8	14.0	9.2	<10	42	13	6	.0
JUN											
10...	0830	850	50	6.7	16.0	8.7	--	--	13	6	.0
JUL											
01...	0800	141	69	7.3	18.0	8.2	<10	2000	22	--	.0
21...	0750	12	67	6.8	24.0	--	--	--	20	--	.0
AUG											
11...	0830	30	55	6.5	20.0	7.2	--	170	16	--	.0
28...	1000	2.7	70	6.8	22.0	--	--	--	--	--	.0
SEP											
01...	0830	2.8	75	6.9	23.0	--	49	110	21	--	--

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	
OCT 08...	5.6	1.7	3.7	--	.4	--	10	9.6	7.1	--	
NOV 06...	4.0	1.4	2.9	26	.3	1.4	7	8.3	4.8	.0	
24...	--	--	--	--	--	--	--	--	--	--	
DEC 02...	3.4	1.3	1.9	--	.2	--	4	--	--	--	
JAN 14...	3.2	1.3	2.1	--	.3	--	11	9.3	3.6	--	
FEB 04...	3.3	1.3	1.5	--	.2	--	3	7.6	2.3	--	
MAR 05...	--	--	--	--	--	--	5	8.6	2.0	--	
APR 08...	3.0	1.3	1.5	--	.2	--	4	8.4	2.3	--	
MAY 06...	3.1	1.3	1.3	--	.2	--	8	8.5	2.1	--	
JUN 10...	3.3	1.1	1.0	--	.1	--	9	8.1	2.6	--	
JUL 01...	5.9	1.8	1.8	--	.2	--	12	12	2.7	--	
21...	5.2	1.7	3.6	27	.4	1.3	10	10	4.6	<.1	
AUG 11...	4.3	1.2	2.0	--	.2	--	10	7.1	3.2	--	
28...	--	--	--	--	--	--	11	--	--	--	
SEP 01...	5.4	1.7	2.1	--	.2	--	--	9.4	6.0	--	
DATE	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 08...	--	44	--	.06	1.1	0	--	--	.10	--	.03
NOV 06...	3.6	40	30	.05	2.4	--	--	--	.09	--	.08
DEC 02...	5.0	--	--	--	--	--	--	--	--	--	--
JAN 14...	4.1	26	31	.04	4.9	1	<.010	<.03	.49	.49	.030
FEB 04...	--	33	--	.04	30.7	1	--	--	.71	--	.12
MAR 05...	--	--	--	--	--	10	--	--	.57	--	.10
APR 08...	--	31	--	.04	18.2	12	--	--	.46	--	.20
MAY 06...	4.0	29	26	.04	13.2	4	<.010	--	.40	.38	.030
JUN 10...	--	41	--	.06	94.1	41	--	--	.32	--	.20
JUL 01...	--	43	--	.06	16.4	14	--	--	--	--	--
21...	2.8	69	37	.09	2.2	--	--	--	.98	--	--
AUG 11...	3.4	--	--	--	--	5	<.010	--	.22	.18	.040
SEP 01...	1.4	56	--	.08	.42	16	<.010	--	.07	.11	.040

LITTLE KANAWHA RIVER BASIN

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WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BCT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	
OCT 08...	.13	.58	.010	--	--	--	--	--	--	--	--	
NOV 06...	.17	.75	.000	--	--	--	--	--	--	--	--	
DEC 02...	--	--	--	--	--	--	--	--	50	2	--	
JAN 14...	--	--	<.010	<.010	<.03	--	--	--	40	<1	--	
FEB 04...	.83	3.7	<.010	--	--	--	--	--	--	--	--	
MAR 05...	.67	3.0	.080	--	--	--	--	--	--	--	--	
APR 08...	.66	2.9	.010	--	--	--	--	--	--	--	--	
MAY 06...	.86	3.8	<.010	<.010	--	--	--	--	50	<1	--	
JUN 10...	.52	2.3	.020	--	--	--	--	--	--	--	--	
JUL 01...	--	--	--	--	--	--	--	--	--	--	--	
21...	--	--	<.010	--	--	1	2	<50	--	--	1	
AUG 11...	.48	2.1	.030	<.010	--	--	--	--	50	<1	--	
SEP 01...	.70	3.1	.020	<.010	--	--	--	--	50	1	--	
	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 08...	--	--	--	--	--	--	--	--	--	240	140	100
NOV 06...	--	--	--	--	--	--	--	--	--	240	170	70
DEC 02...	3	--	--	--	<3	--	--	<10	--	--	--	28
JAN 14...	<1	--	--	--	<3	--	--	<10	--	140	--	<10
FEB 04...	--	--	--	--	--	--	--	--	--	210	180	30
MAR 05...	--	--	--	--	--	--	--	--	--	180	--	--
APR 08...	--	--	--	--	--	--	--	--	--	140	100	40
MAY 06...	2	--	--	--	<3	--	--	<10	--	170	140	43
JUN 10...	--	--	--	--	--	--	--	--	--	2400	2400	50
JUL 01...	--	--	--	--	--	--	--	--	--	2300	2300	50
21...	--	<1	10	<1	--	<10	2	--	1	280	220	60
AUG 11...	<1	--	--	--	<3	--	--	<10	--	320	290	35
SEP 01...	1	--	--	--	3	--	--	10	--	270	240	33

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)
OCT 08...	--	--	--	--	--	20	10	10	--	--	--	--
NOV 06...	--	--	--	--	--	10	6	4	--	--	--	--
DEC 02...	--	--	<10	--	<4	--	--	12	--	--	--	<10
JAN 14...	--	--	<10	--	<4	20	10	10	--	--	--	<10
FEB 04...	--	--	--	--	--	<10	--	20	--	--	--	--
MAR 05...	--	--	--	--	--	30	--	--	--	--	--	--
APR 08...	--	--	--	--	--	20	10	10	--	--	--	--
MAY 06...	--	--	15	--	7	30	20	15	--	--	--	<10
JUN 10...	--	--	--	--	--	100	80	20	--	--	--	--
JUL 01...	--	2	--	--	--	80	70	10	--	--	--	--
21...	630	4	--	<10	--	30	0	30	230	<.1	<.01	--
AUG 11...	--	--	<10	--	<4	30	20	15	--	--	--	<10
SEP 01...	--	--	10	--	4	70	20	50	--	--	--	10

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDED (MG/L)
OCT 08...	0	--	--	0	--	--	10	--	--	.00	--
NOV 06...	5	--	--	0	--	--	10	--	--	.00	--
24...	--	--	--	--	--	--	--	--	--	--	463
DEC 02...	12	--	--	2	20	<6.0	30	5	--	.00	--
JAN 14...	1	--	--	4	18	<6.0	30	<4	--	<.01	--
FEB 04...	10	--	--	0	--	--	10	--	--	<.01	--
MAR 05...	10	--	--	0	--	--	10	--	--	--	--
APR 08...	5	--	--	0	--	--	30	--	--	<.01	--
MAY 06...	15	--	--	0	18	<6.0	20	7	--	<.01	--
JUN 10...	8	--	--	0	--	--	30	--	--	--	--
JUL 01...	7	--	--	2	--	--	30	--	--	<.01	--
21...	--	<1	<1	<1	--	--	20	--	8	<.01	--
AUG 11...	2	--	--	<1	23	<6.0	20	<4	--	<.01	--
SEP 01...	5	--	--	<1	32	6.0	30	16	--	<.01	--

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	62	60	46	45	43	52	44	41	85	50	74
2	75	59	51	51	44	49	48	43	42	60	55	71
3	77	71	49	51	47	45	62	40	40	59	56	78
4	79	87	45	54	52	46	42	59	42	58	55	72
5	83	64	46	54	---	50	46	45	43	58	61	73
6	82	63	48	55	45	43	48	44	41	54	58	71
7	83	63	49	49	45	42	43	46	38	56	58	65
8	79	64	55	50	44	42	49	45	39	74	52	58
9	103	63	51	50	45	43	44	44	43	52	56	45
10	79	67	47	49	44	63	47	44	48	55	52	48
11	81	73	45	57	53	47	55	46	43	56	55	49
12	116	65	49	54	44	46	46	44	46	56	54	56
13	82	66	45	54	44	47	54	40	45	59	56	54
14	81	---	46	70	46	49	54	41	42	60	57	58
15	83	63	47	50	45	61	50	---	45	60	58	59
16	86	63	49	55	46	54	49	44	45	62	60	46
17	83	61	50	62	50	53	51	45	47	64	64	47
18	85	50	55	104	46	48	52	41	51	67	75	49
19	89	46	51	54	47	46	40	43	51	66	70	53
20	128	53	53	54	---	52	42	40	41	67	67	52
21	92	48	60	72	44	50	43	43	39	71	70	55
22	124	50	59	72	51	51	44	42	40	---	68	56
23	92	50	58	52	46	52	43	44	42	62	67	55
24	134	45	51	114	44	61	43	51	44	62	70	58
25	78	42	57	49	44	44	46	49	64	71	68	60
26	77	42	58	60	44	48	42	57	48	85	70	63
27	69	45	48	105	45	43	42	49	54	68	87	60
28	65	49	45	88	45	42	43	41	46	58	71	61
29	65	46	44	51	---	41	43	45	48	51	72	61
30	70	53	49	63	---	54	47	43	47	47	75	64
31	60	---	49	46	---	77	---	38	---	48	75	---
MEAN	86	58	51	61	46	49	47	45	45	62	63	59
WTR YR 1981	MEAN	56	MAX	134	MIN	38						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	14.0	16.0	22.0	---	24.0
2	---	---	5.5	---	---	---	---	13.0	18.0	22.5	---	26.0
3	---	---	---	---	---	---	---	15.0	18.5	23.0	---	26.0
4	---	---	---	---	.0	---	---	16.0	17.0	23.0	---	25.0
5	---	---	---	---	---	5.5	---	17.0	18.0	23.0	---	25.0
6	---	6.0	---	---	---	---	---	15.0	17.0	---	---	24.0
7	---	---	---	---	---	---	---	16.0	19.0	23.0	---	23.0
8	11.0	---	---	---	---	---	14.0	16.0	19.0	23.0	---	21.0
9	---	---	---	---	---	---	14.0	17.0	19.0	24.0	---	21.0
10	---	---	---	---	---	---	15.0	17.0	16.0	23.0	---	19.0
11	---	---	---	---	---	---	16.0	16.0	19.0	23.0	20.0	20.0
12	---	---	---	---	---	---	16.0	13.0	19.0	24.0	---	20.0
13	---	---	---	---	---	---	18.0	14.0	19.0	23.0	---	22.0
14	---	---	---	.5	---	---	18.0	17.0	---	23.0	---	23.0
15	---	---	---	---	---	---	14.0	---	---	24.0	---	19.0
16	---	---	---	---	---	---	13.5	16.0	20.0	25.0	---	18.0
17	---	---	---	---	---	---	19.0	14.0	20.0	24.0	---	17.0
18	---	---	---	---	---	---	18.0	14.0	24.0	24.5	---	18.0
19	---	---	---	---	---	---	14.0	13.0	25.0	---	---	18.0
20	---	---	---	---	---	---	13.0	15.0	21.0	26.0	---	17.0
21	---	---	---	---	---	---	11.0	16.0	22.0	26.0	---	18.0
22	---	---	---	---	---	---	12.5	17.0	22.0	---	---	18.0
23	---	---	---	---	---	---	13.0	16.0	22.0	26.0	---	17.0
24	---	---	---	---	---	---	10.0	17.0	23.0	26.0	---	17.0
25	---	---	---	---	---	---	12.0	19.0	25.0	26.0	---	18.0
26	---	---	---	---	---	---	14.0	20.0	22.0	26.0	---	18.0
27	---	---	---	---	---	---	17.0	19.5	22.0	26.0	---	18.5
28	---	---	---	---	---	---	18.0	17.0	23.0	26.0	---	18.0
29	---	---	---	---	---	---	17.0	16.0	24.0	---	---	---
30	---	---	---	---	---	---	15.0	17.0	23.0	26.0	---	---
31	---	---	---	---	---	---	---	16.0	---	26.0	---	---
MEAN							15.0	16.0	20.5	24.5		20.5

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH										
1	3	.08	9	1.0	18	11	1	.45	4	1.6	43	118									
2	3	.08	3	.27	11	8.3	2	.90	52	112	5	11									
3	4	.13	1	.07	36	46	2	.70	23	39	4	5.4									
4	4	.15	2	.12	8	7.6	1	.32	2	1.8	1	.93									
5	3	.13	1	.06	5	3.3	1	.31	1	.57	2	2.2									
6	3	.13	2	.12	4	2.1	2	.62	4	1.7	10	18									
7	2	.06	2	.10	5	2.3	1	.30	6	2.6	2	2.8									
8	1	.03	3	.14	8	4.9	1	.28	1	.46	1	.91									
9	1	.02	5	.24	17	14	0	.00	3	1.4	3	2.0									
10	1	.02	21	1.6	28	47	0	.00	2	.92	2	1.0									
11	1	.02	11	.92	9	12	2	.48	15	17	1	.45									
12	1	.02	12	.78	4	3.4	2	1.3	11	16	1	.38									
13	1	.02	6	.34	2	1.2	4	.84	6	6.9	1	.34									
14	1	.02	2	.10	0	.00	1	.19	2	1.8	1	.31									
15	0	.00	2	.10	0	.00	1	.19	1	.66	1	.27									
16	0	.00	2	.10	1	.30	1	.18	1	.61	17	6.6									
17	1	.01	19	8.4	1	.26	1	.17	2	1.3	10	5.3									
18	1	.02	92	202	1	.21	1	.17	2	1.4	1	.55									
19	0	.00	15	14	1	.20	1	.19	0	.00	1	.52									
20	1	.02	8	3.8	1	.15	1	.25	48	86	1	.47									
21	1	.02	4	1.3	0	.00	3	.98	173	1270	1	.43									
22	1	.02	2	.46	0	.00	11	8.7	47	151	0	.00									
23	1	.02	2	.36	1	.16	5	5.1	65	240	0	.00									
24	1	.02	232	1070	2	.37	5	4.7	51	167	10	6.8									
25	41	1.1	56	194	3	.89	5	3.9	8	15	5	3.7									
26	52	2.5	16	26	4	1.1	23	20	3	3.7	4	2.6									
27	15	2.5	15	16	3	.89	23	39	1	.84	13	15									
28	5	.54	14	13	1	.32	8	10	2	1.5	11	17									
29	5	.96	12	8.9	3	.99	5	4.1	---	---	6	6.4									
30	2	.38	8	4.6	2	.73	4	1.8	---	---	5	4.0									
31	5	.73	---	---	1	.39	7	2.5	---	---	5	2.9									
TOTAL	---	41.15	---	1568.88	---	170.06	---	108.62	---	2142.76	---	236.26									

LITTLE KANAWHA RIVER BASIN

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03151518 BURNSVILLE LAKE NEAR BURNSVILLE, WV

LOCATION.--Lat 38°50'38", long 80°37'12", Braxton County, Hydrologic Unit 05030203, at Burnsville Dam on Little Kanawha River, 2.7 mi (4.3 km) upstream from Burnsville, and at mile 124.2 (199.8 km).

DRAINAGE AREA.--163 mi² (422 km²).

PERIOD OF RECORD.--July 1976 to current year. Prior to March 1979, reservoir elevations above 770.38 ft (234.812 m) only.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rockfill embankment with impervious core, completed in January 1976. Storage-control operations began Mar. 18, 1979. Spillway is a concrete ogee spillway controlled by three crest gates, 42 ft (12.8 m) by 35 ft (10.7 m) each, at crest elevation 792 ft (241.4 m) and a total crest width of 142 ft (43.3 m). Flow is controlled by five 4.0 ft (1.22 m) by 4.5 ft (1.37 m) sluices with hydraulically operated slide gates located in the concrete spillway section. Three 4.0 ft (1.22 m) by 4.0 ft (1.22 m) intakes will discharge through three 30 in (762 mm) diameter conduits for water-quality control. Streambed elevation at dam is 755 ft (230.1 m). Total capacity at flood-control pool elevation of 825 ft (251.5 m), is 65,900 acre-ft (81.3 hm³), of which 61,700 acre-ft (76.1 hm³) is controlled storage above minimum pool elevation of 776 ft (236.5 m). Figures given herein represent total contents. This is a multipurpose reservoir. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 34,380 acre-ft (42.4 hm³) June 7, 1981 elevation, 805.90 ft (245.638 m); minimum since storage-control operations began, 1,910 acre-ft (2.36 hm³) Dec. 22, 1981, elevation, 770.86 ft (234.958 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 34,380 acre-ft (42.4 hm³) June 7, elevation, 805.90 ft (245.638 m); minimum, 1,910 acre-ft (2.36 hm³) Dec. 22, elevation, 770.86 ft (234.958 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	788.78	14150	-	-
Oct. 31.....	784.30	10100	-4050	-66
Nov. 30.....	778.54	5776	-4324	-73
Dec. 31.....	776.88	4749	-1027	-17
CAL YR 1980			+169	0
Jan. 31.....	777.77	5287	+538	+9
Feb. 28.....	776.41	4477	-810	-15
Mar. 31.....	778.06	5469	+992	+16
Apr. 30.....	789.54	14880	+9411	+158
May 31.....	793.64	19110	+4230	+69
June 30.....	789.82	15160	-3950	-66
July 31.....	789.86	15200	+40	+1
Aug. 31.....	788.91	14270	-930	-15
Sept. 30.....	789.45	14800	+530	+9
WTR YR 1981			+649	+1

LITTLE KANAWHA RIVER BASIN

03151520 LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV

LOCATION.--Lat 38°50'41", long 80°37'45", Braxton County, Hydrologic Unit 05030203, on right bank 2600 ft (792 m) downstream from Burnsville Dam, 1.6 mi (2.6 km) southeast of Burnsville, and at mile 123.7 (199.0 km).

DRAINAGE AREA.--163 mi² (422 km²).

PERIOD OF RECORD.--July 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft (213.360 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated since 1979 by Burnsville Lake (station 03151518). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years, 311 ft³/s (8.808 m³/s), 25.91 in/yr (658 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,530 ft³/s (71.6 m³/s) Oct. 9, 1976, gage height, 58.81 ft (17.925 m); minimum, 3.6 ft³/s (0.10 m³/s) May 26, 1977, gage height, 50.62 ft (15.429 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,340 ft³/s (66.3 m³/s) June 10, gage height, 58.10 ft (17.709 m); minimum, 11 ft³/s (0.31 m³/s) Oct. 1, minimum gage height, 51.55 ft (15.712 m) Aug. 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	176	924	233	79	898	66	470	1420	163	62	29
2	26	181	353	233	107	1180	30	768	1360	191	45	29
3	26	182	404	233	455	872	21	708	1590	128	39	29
4	26	182	528	195	657	682	18	432	1160	75	39	30
5	26	159	437	79	645	630	18	268	1620	74	39	29
6	26	115	265	78	626	818	18	228	553	242	40	26
7	26	111	226	156	581	656	17	335	894	271	40	21
8	26	127	279	121	505	244	26	305	2200	136	52	21
9	26	125	377	82	251	113	30	191	2190	53	70	60
10	26	133	663	82	137	115	20	139	1480	53	95	117
11	26	131	654	82	309	164	22	277	2200	54	65	85
12	26	130	424	55	528	167	22	529	2180	76	39	80
13	26	135	302	57	592	94	22	606	1670	64	39	80
14	26	139	222	69	535	127	21	553	917	53	39	80
15	25	137	129	78	367	135	21	773	365	54	39	367
16	55	137	131	72	273	135	21	911	103	54	39	1170
17	149	148	109	63	334	244	22	656	88	54	35	1360
18	179	313	88	63	309	320	220	373	79	54	29	675
19	189	434	89	53	303	248	870	454	63	54	29	208
20	186	432	88	59	563	244	924	918	210	54	26	133
21	168	426	78	112	975	202	638	1880	500	54	25	60
22	122	419	64	207	1430	176	432	1630	363	49	29	37
23	87	410	62	313	1300	176	338	632	222	38	29	37
24	70	269	62	322	1380	216	444	265	166	38	29	37
25	174	254	62	272	1840	302	539	166	126	38	29	37
26	262	632	62	273	2010	284	425	86	151	39	29	37
27	207	764	122	511	1760	366	316	145	144	41	29	37
28	155	1120	146	564	713	541	233	365	95	41	29	37
29	193	1300	144	205	---	555	321	1080	62	86	29	37
30	187	1210	147	81	---	256	354	1000	54	125	29	37
31	164	---	207	79	---	103	---	906	---	106	29	---
TOTAL	2932	10431	7848	5082	19564	11263	6469	18049	24225	2612	1215	5022
MEAN	94.6	348	253	164	699	363	216	582	808	84.3	39.2	167
MAX	262	1300	924	564	2010	1180	924	1880	2200	271	95	1360
MIN	22	111	62	53	79	94	17	86	54	38	25	21

CAL YR 1980 TOTAL 101086 MEAN 276 MAX 1660 MIN 21 MEAN# 276 CFSM# 1.69 IN# 23.00
WTR YR 1981 TOTAL 114712 MEAN 314 MAX 2200 MIN 17 MEAN# 315 CFSM# 1.93 IN# 26.20

* Adjusted for change in contents in Burnsville Lake.

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LOCATION.--Lat 38°51'55", long 80°40'32", Braxton County, Hydrologic Unit 05030203, on right bank 70 ft (21 m) upstream from Buffalo Creek, 1.0 mi (1.6 km) northwest of Burnsville, 1.4 mi (2.3 km) downstream from Oil Creek, and at mile 119.5 (192.3 km).

PERIOD OF RECORD.--April 1974 to September 1978, October 1978 to current year (gage heights, discharge measurements, and annual maximum discharge only).

REMARKS.--Records good. Flow partially regulated since 1968 by five floodwater-detention reservoirs affecting 49.5 mi² (128.2 km²), and since 1979 by Burnsville Lake (station 03151518). Corps of Engineers gage-height telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,620 ft³/s (131 m³/s) June 6, gage height, 12.13 ft (3.679 m); minimum gage height, 3.07 ft (0.936 m) July 16.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.64	4.40	6.13	4.92	4.17	7.06	4.36	5.56	7.68	4.48	3.99	3.67
2	3.67	4.42	5.12	4.92	5.59	6.90	4.44	6.18	8.09	4.62	3.84	3.68
3	3.69	4.42	5.25	4.84	5.59	6.20	4.22	5.84	7.65	4.37	3.78	3.72
4	3.74	4.41	5.38	4.69	5.73	5.85	4.09	5.23	7.94	4.11	3.77	4.03
5	3.74	4.35	5.18	4.25	5.60	6.05	4.14	4.78	8.42	4.24	3.77	3.98
6	3.72	4.19	4.79	4.12	5.54	6.38	4.20	4.67	10.02	5.14	3.79	3.82
7	3.71	4.13	4.78	4.47	5.45	5.90	4.07	5.05	6.83	4.88	3.82	3.68
8	3.71	4.23	4.94	4.38	5.33	5.02	4.05	4.92	8.76	4.41	3.91	3.68
9	3.71	4.21	5.25	4.15	4.87	4.50	4.06	4.57	8.63	3.97	3.99	3.96
10	3.71	4.24	5.90	4.14	4.57	4.45	3.93	4.34	8.52	3.96	4.07	4.28
11	3.73	4.26	5.68	4.12	5.37	4.54	3.92	4.72	8.78	3.93	3.99	4.14
12	3.73	4.25	5.18	3.99	5.64	4.58	3.90	5.48	8.53	3.99	3.77	4.08
13	3.74	4.25	4.87	3.92	5.63	4.25	3.87	5.53	7.49	3.97	3.77	4.08
14	3.75	4.27	4.65	4.03	5.52	4.34	3.88	5.38	6.17	3.89	3.77	4.08
15	3.76	4.26	4.36	4.07	5.17	4.38	3.92	6.71	5.02	3.85	3.76	5.45
16	3.94	4.26	4.33	4.06	4.96	4.55	3.85	6.42	4.26	3.85	3.76	7.28
17	4.25	4.46	4.27	3.98	5.13	4.98	4.46	5.73	4.13	3.85	3.74	6.98
18	4.37	5.74	4.14	3.97	5.18	5.08	5.96	5.13	4.10	3.84	3.65	5.78
19	4.39	5.34	4.13	3.93	5.15	4.90	6.18	7.33	3.94	3.84	3.64	4.66
20	4.39	5.18	4.12	3.92	6.16	4.82	6.26	7.43	4.53	3.83	3.62	4.33
21	4.35	5.10	4.06	4.30	7.60	4.71	5.60	7.95	5.30	3.84	3.50	3.97
22	4.20	5.06	3.95	5.07	7.25	4.61	5.15	7.40	5.14	3.85	3.62	3.74
23	4.05	5.03	3.95	5.22	8.98	4.61	5.05	5.58	4.72	3.76	3.62	3.73
24	3.92	5.51	3.98	5.12	7.63	4.68	5.51	4.76	4.41	3.76	3.62	3.70
25	4.34	5.32	4.10	4.98	7.90	4.91	5.44	4.43	4.33	3.78	3.63	3.70
26	4.82	5.64	4.05	5.06	8.10	4.87	5.17	4.14	4.50	3.78	3.63	3.69
27	4.59	5.95	4.27	5.43	7.53	5.31	4.89	4.27	4.41	3.80	3.63	3.68
28	4.38	6.44	4.42	5.51	6.18	5.66	4.64	4.90	4.17	3.86	3.63	3.68
29	4.46	6.68	4.42	4.69	---	5.58	4.79	7.01	4.00	4.42	3.64	3.68
30	4.47	6.58	4.51	4.23	---	5.03	5.05	6.94	3.93	4.36	3.65	3.68
31	4.36	---	4.80	4.16	---	4.45	---	7.96	---	4.23	3.66	---
MEAN	4.03	4.89	4.68	4.47	5.98	5.13	4.64	5.69	6.15	4.08	3.74	4.22
MAX	4.82	6.68	6.13	5.51	8.98	7.06	6.26	7.96	10.02	5.14	4.07	7.28
MIN	3.64	4.13	3.95	3.92	4.17	4.25	3.85	4.14	3.93	3.76	3.50	3.67

LITTLE KANAWHA RIVER BASIN

03152000 LITTLE KANAWHA RIVER AT GLENVILLE, WV

LOCATION.--Lat 38°56'00", long 80°50'20", Gilmer County, Hydrologic Unit 05030203, on right bank at highway bridge at Glenville, 1000 ft (305 m) upstream from Sycamore Run, and at mile 103.4 (166.4 km).

DRAINAGE AREA.--386 mi² (1,000 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1915 to September 1922 (gage heights only), October 1928 to current year. Monthly discharge only October to December 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1305: 1930, 1932(M). WSP 1435: 1954. WSP 1555: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 697.79 ft (212.686 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 14, 1934, nonrecording gage at bridge 300 ft (91 m) upstream at same datum. Auxiliary water-stage recorder 2.7 mi (4.3 km) downstream from base gage at datum 700.23 ft (213.430 m) National Geodetic Vertical Datum of 1929. Prior to May 25, 1971, auxiliary nonrecording gage at same site and datum.

REMARKS.--Water-discharge records fair. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² (128.2 km²), and since 1979 by Burnsville Lake (station 03151518). National Weather Service and Corps of Engineers gage-height telemeters at station.

AVERAGE DISCHARGE.--53 years, 606 ft³/s (17.16 m³/s), 21.32 in/yr (542 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s (609 m³/s) Mar. 7, 1967, gage height, 34.50 ft (10.516 m), backwater; no flow at times in 1930-33.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 16, 1926, reached a stage of 33.6 ft (10.24 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,880 ft³/s (280 m³/s) June 6, gage height, 25.60 ft (7.803 m); minimum, 27 ft³/s (0.76 m³/s) Aug. 22, minimum gage height, 1.96 ft (0.597 m) Aug. 22, Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	39	161	1420	533	195	2630	288	1410	2920	165	124	32		
2	36	161	803	576	1960	2180	293	2320	5190	297	77	36		
3	33	166	728	484	1380	1420	243	1310	2850	232	62	41		
4	43	165	774	385	1070	1130	196	847	3070	199	53	51		
5	51	164	668	261	875	1540	197	503	2930	128	51	112		
6	45	139	457	173	821	1840	244	407	7490	484	64	70		
7	39	109	446	192	751	1350	205	567	5230	460	105	46		
8	37	119	726	210	700	784	180	587	2960	304	221	37		
9	36	124	873	170	573	364	179	387	2880	135	115	38		
10	35	127	1660	143	333	310	162	266	4140	94	107	112		
11	34	131	1140	130	964	275	140	372	3080	96	126	149		
12	31	132	722	110	1160	351	135	812	2820	82	82	97		
13	31	129	502	97	1090	212	132	875	2420	115	62	97		
14	31	132	344	116	953	194	122	787	2370	91	52	96		
15	30	132	280	128	765	207	132	2600	862	77	48	97		
16	30	132	171	143	619	284	121	1970	304	70	53	1090		
17	75	288	207	119	731	494	423	1200	245	65	52	1740		
18	112	1560	149	109	892	577	2430	716	203	62	46	1240		
19	116	846	130	105	749	519	1550	2870	146	62	37	299		
20	130	598	120	94	1760	394	1570	4170	245	65	36	197		
21	125	513	110	154	3310	406	1030	2670	677	65	34	126		
22	126	466	95	715	2350	300	709	2310	1150	113	30	65		
23	105	438	87	820	3870	300	588	1170	697	77	34	39		
24	72	788	83	678	3920	299	1040	467	318	62	34	35		
25	121	1060	71	555	2520	404	959	295	232	77	33	32		
26	434	764	80	593	2600	432	776	232	278	58	33	31		
27	299	1060	128	743	2350	762	589	192	249	68	32	30		
28	178	1380	188	900	1540	1120	411	402	179	71	33	29		
29	171	1740	192	565	---	976	409	2230	133	195	33	28		
30	203	1650	234	187	---	766	576	2120	109	215	32	29		
31	162	---	401	189	---	358	---	4710	---	179	32	---		
TOTAL	3010	15374	13989	10377	40801	23178	16029	41774	56377	4463	1933	6121		
MEAN	97.1	512	451	335	1457	748	534	1348	1879	144	62.4	204		
MAX	434	1740	1660	900	3920	2630	2430	4710	7490	484	221	1740		
MIN	30	109	71	94	195	194	121	192	109	58	30	28		
CAL YR 1980	TOTAL	217574	MEAN	594	MAX	5010	MIN	30	MEAN#	594	CFSM#	1.54	IN#	20.96
WTR YR 1981	TOTAL	233426	MEAN	640	MAX	7490	MIN	28	MEAN#	641	CFSM#	1.66	IN#	22.53

* Adjusted for change in storage in Burnsville Lake.

03152000 LITTLE KANAWHA RIVER AT GLENVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1950-58, 1960-61, 1963, 1965-67, 1970, 1974, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT										
22...	1130	143	100	7.0	14.5	33	0	.0	9.2	2.4
DEC										
10...	1300	1490	150	7.2	8.5	19	0	.0	5.8	1.0
JAN										
14...	1000	121	155	6.9	1.0	49	22	.0	14	3.5
MAR										
17...	1630	458	220	7.4	4.5	49	32	.0	14	3.3
MAY										
13...	1800	890	175	6.9	16.5	31	--	.0	8.6	2.4
AUG										
27...	1530	32	175	7.2	21.0	57	--	.0	16	4.1

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT										
22...	4.3	21	.3	2.0	41	13	5.6	.0	3.9	66
DEC										
10...	1.3	--	.1	--	45	21	8.6	--	4.4	84
JAN										
14...	11	--	.7	--	33	31	12	--	4.8	100
MAR										
17...	9.4	--	.6	--	21	24	12	--	--	104
MAY										
13...	9.0	--	.7	--	16	--	--	--	4.8	--
AUG										
27...	12	--	.7	--	26	38	9.7	--	3.0	138

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT										
22...	62	.09	25.5	--	--	--	--	--	--	--
DEC										
10...	64	.11	338	--	--	--	--	--	--	--
JAN										
14...	95	.14	32.7	--	--	<.010	<.03	.48	.150	<.010
MAR										
17...	--	.14	129	--	--	--	--	--	--	--
MAY										
13...	--	--	--	1.50	6.6	.020	.07	1.5	.320	<.010
AUG										
27...	--	.19	11.9	--	--	<.010	--	.08	.030	<.010

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE- RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT									
22...	--	--	--	--	--	--	1400	940	460
DEC									
10...	--	40	<0	<1	<3	<10	2000	1900	28
JAN									
14...	<.03	50	<1	<1	<3	<10	560	440	120
MAR									
17...	--	--	--	--	--	--	1300	1300	40
MAY									
13...	--	50	<1	33	<3	64	--	--	73
AUG									
27...	--	50	1	1	3	13	860	730	130

LITTLE KANAWHA RIVER BASIN

03152000 LITTLE KANAWHA RIVER AT GLENVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENLM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	--	--	580	50	530	--	--	--	--
DEC 10...	<10	<4	190	120	47	<10	16	<6.0	17
JAN 14...	<10	<4	310	20	290	<10	80	<6.0	8
MAR 17...	--	--	130	30	100	--	--	--	--
MAY 13...	18	<4	--	--	72	<10	49	<6.0	760
AUG 27...	10	4	310	30	280	10	120	6.0	27

LITTLE KANAWHA RIVER BASIN

185

03153500 LITTLE KANAWHA RIVER AT GRANTSVILLE, WV

LOCATION.--Lat 38°55'20", long 81°05'50", Calhoun County, Hydrologic Unit 05030203, on left bank 1,000 ft (305 m) downstream from bridge on State Highway 16 at Grantsville, 1,200 ft (366 m) downstream from Philip Run, and at mile 80.0 (128.7 km).

DRAINAGE AREA.--913 mi² (2,365 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to September 1978. Monthly discharge only October to December 1928, published in WSP 1305. October 1978 to current year (gage heights, discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 1275: 1929(M), 1932-36.

GAGE.--Water-stage recorder. Datum of gage is 652.83 ft (198.983 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 21, 1934, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² (128.2 km²) and since 1979 by Burnsville Lake (station 03151518).

AVERAGE DISCHARGE.--50 years (water years 1929-1978), 1,328 ft³/s (37.61 m³/s), 19.75 in/yr (502 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,100 ft³/s (994 m³/s) Mar. 7, 1967, gage height, 43.9 ft (13.38 m), from floodmarks; no flow Sept. 10 to Nov. 16, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,000 ft³/s (564 m³/s) June 7, gage height, 31.44 ft (9.583 m); minimum gage height, 6.45 ft (1.966 m) Aug. 30, 31, Sept. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.64	7.49	11.59	9.80	8.13	16.69	9.12	11.52	16.72	12.69	7.58	6.47
2	6.62	7.46	10.70	10.40	15.95	14.98	9.00	15.97	23.75	9.58	7.27	6.59
3	6.61	7.43	11.21	9.86	16.16	12.79	8.86	12.27	17.64	8.82	7.04	6.71
4	6.59	7.45	10.69	9.36	11.80	11.46	8.55	10.76	16.56	9.30	6.94	7.28
5	6.66	7.47	9.98	8.71	11.11	13.03	8.52	9.63	18.36	8.49	6.84	7.64
6	6.78	7.45	9.40	8.62	10.57	15.22	8.86	9.20	25.08	11.19	6.89	7.41
7	6.77	7.31	8.99	8.25	10.26	12.95	8.69	9.87	29.08	9.99	7.17	7.08
8	6.71	7.13	10.61	8.50	9.89	11.24	8.48	9.83	16.68	9.02	7.61	6.88
9	6.66	7.16	10.83	8.48	9.66	9.84	8.30	9.20	14.42	8.35	7.73	6.76
10	6.63	7.19	14.56	7.88	9.33	9.22	8.28	8.69	16.90	7.80	7.26	6.73
11	6.62	7.24	12.12	7.94	11.93	8.94	8.07	8.64	16.17	7.59	7.12	7.01
12	6.59	7.27	10.56	8.18	13.84	8.82	7.99	10.26	14.19	7.41	7.13	7.22
13	6.56	7.27	9.56	7.95	13.81	8.70	8.03	10.32	13.37	---	7.10	6.99
14	6.55	---	8.98	7.65	12.97	8.30	8.01	10.04	14.87	---	7.05	6.95
15	6.54	---	8.55	7.60	11.03	8.19	7.96	17.07	11.67	---	6.88	7.27
16	6.54	---	8.30	7.60	10.58	8.34	7.88	16.08	9.37	---	6.87	12.16
17	6.53	---	8.15	7.64	11.54	9.60	8.75	12.35	8.68	---	6.88	11.86
18	6.71	---	8.05	7.51	12.30	9.84	16.00	10.71	8.42	---	6.82	10.94
19	7.18	---	7.81	7.40	11.44	9.61	15.12	16.37	8.04	---	6.73	9.09
20	7.27	10.05	7.69	7.34	13.45	9.22	12.73	24.35	8.07	---	6.65	8.05
21	7.25	9.11	7.52	7.46	17.30	9.08	11.73	16.31	9.67	---	6.58	7.64
22	7.25	8.78	7.41	10.42	15.35	8.84	10.50	13.76	11.61	---	6.55	7.26
23	7.17	8.57	7.25	12.42	16.55	8.77	10.02	11.99	12.17	---	6.52	6.96
24	6.99	9.31	7.30	11.60	21.62	8.71	12.47	9.78	9.62	---	6.48	6.77
25	7.05	12.66	7.82	10.81	15.37	8.69	11.84	8.82	8.69	---	6.49	6.70
26	8.79	10.45	8.18	10.30	14.04	8.81	10.89	8.43	8.68	---	6.48	6.66
27	8.77	10.49	7.93	10.88	13.30	10.30	10.07	8.11	8.74	---	6.47	6.62
28	8.14	12.00	7.85	10.56	12.46	13.10	9.47	8.37	8.23	7.16	6.47	6.59
29	7.75	12.08	8.00	9.83	---	11.44	9.10	14.53	7.79	8.39	6.46	6.55
30	7.66	11.97	8.16	8.66	---	10.72	9.59	13.94	7.95	8.49	6.46	6.54
31	7.70	---	8.89	7.96	---	9.86	---	20.73	---	7.94	6.46	---
MEAN	7.04	---	9.18	8.95	12.92	10.49	9.76	12.19	13.37	---	6.87	7.51
MAX	8.79	---	14.56	12.42	21.62	16.69	16.00	24.35	29.08	---	7.73	12.16
MIN	6.53	---	7.25	7.34	8.13	8.19	7.88	8.11	7.79	---	6.46	6.47

03153500 LITTLE KANAWHA RIVER AT GRANTSVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965-67, 1969-74, 1976-78, 1980 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 21...	1700	179	195	7.3	15.0	56	1	.0	16	4.0	12	31
DEC 10...	1130	4440	150	7.2	9.5	41	3	.0	12	2.7	6.7	--
JAN 13...	1400	236	150	6.8	2.0	49	22	.0	14	3.4	8.5	--
MAR 17...	1440	1120	200	7.3	4.5	47	27	.0	13	3.5	25	--
MAY 13...	1230	1400	150	7.3	16.5	45	20	.0	12	3.3	7.5	--
AUG 27...	1400	38	195	7.4	26.0	63	--	.0	18	4.4	9.3	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT 21...	.7	2.1	67	32	13	.0	2.6	115	115	.16	55.6	--
DEC 10...	.5	--	46	20	9.9	--	6.4	85	81	.12	1020	--
JAN 13...	.5	--	33	25	10	--	5.3	86	85	.12	54.8	<.010
MAR 17...	1.6	--	24	25	7.2	--	--	88	--	.12	266	--
MAY 13...	.6	--	30	19	6.6	--	5.0	93	70	.13	352	<.010
AUG 27...	.5	--	34	34	11	--	2.1	120	--	.16	12.3	<.010

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 21...	--	--	--	--	--	--	--	--	--	--	740
DEC 10...	--	--	--	--	--	40	<0	<1	<3	<10	6100
JAN 13...	<.03	.49	.180	<.010	<.03	50	<1	<1	<3	11	450
MAR 17...	--	--	--	--	--	--	--	--	--	--	1300
MAY 13...	--	.28	.130	<.010	--	50	<1	2	<3	22	920
AUG 27...	--	.02	.010	<.010	--	50	1	1	3	10	670

DATE	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	370	370	--	--	110	10	100	--	--	--	--
DEC 10...	6000	90	10	<4	410	390	16	<10	57	<6.0	15
JAN 13...	330	120	<10	<4	130	0	130	<10	76	<6.0	28
MAR 17...	1300	40	--	--	140	90	50	--	--	--	--
MAY 13...	850	73	<10	<4	60	40	24	<10	71	<6.0	240
AUG 27...	600	73	10	4	140	30	110	10	120	6.0	16

LITTLE KANAWHA RIVER BASIN

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03154000 WEST FORK LITTLE KANAWHA RIVER AT ROCKSDALE, WV

LOCATION.--Lat 38°50'48", long 81°13'26", Calhoun County, Hydrologic Unit 05030203, on right bank on State Route 11, 850 ft (259 m) downstream from Henry Fork at Rocksdales, 9.0 mi (14.5 km) southwest of Grantsville, and at mile 14.1 (22.7 km).

DRAINAGE AREA.--205 mi² (531 km²).

PERIOD OF RECORD.--October 1928 to September 1931, October 1937 to September 1975 (monthly discharge only for some periods, published in WSP 1305), October 1975 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 953: 1929-31, 1938(M), 1939. WSP 1275: 1950.

GAGE.--Water-stage recorder. Datum of gage is 657.85 ft (200.513 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to June 16, 1966, nonrecording gage, crest-stage gage Nov. 4, 1946, to June 15, 1966, on bridge 800 ft (244 m) upstream at same datum.

REMARKS.--Records good. No gage-height record Feb. 2 to Mar. 17 and Aug. 16-26.

AVERAGE DISCHARGE.--41 years (water years 1929-31, 1938-75), 258 ft³/s (7.307 m³/s), 17.09 in/yr (434 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft³/s (572 m³/s) Apr. 16, 1939, gage height, 30.3 ft (9.24 m), from floodmarks, site then in use, from rating curve extended above 13,000 ft³/s (370 m³/s); no flow at times during 1930, 1931, 1954, 1957, 1959, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,330 ft³/s (123 m³/s) May 20, gage height, 16.66 ft (5.078 m); minimum gage height, 3.37 ft (1.027 m) Aug. 29, 30.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.75	3.86	5.23	5.77	4.65	---	5.52	5.43	8.15	5.25	3.81	3.61
2	3.74	3.82	5.13	5.92	12.36	---	5.37	5.43	13.35	5.10	3.73	3.74
3	3.73	3.79	5.82	5.70	---	---	5.17	5.17	7.80	4.53	3.69	3.80
4	3.73	3.79	5.46	5.66	---	---	5.07	4.97	9.40	4.61	3.65	4.45
5	3.73	3.83	5.16	5.77	---	---	5.39	4.81	10.02	5.73	3.63	4.33
6	3.73	3.83	4.95	5.15	---	---	5.77	4.85	11.78	7.22	3.67	3.93
7	3.73	3.83	4.76	4.91	---	---	5.45	5.64	9.57	5.61	3.87	3.76
8	3.73	3.82	4.63	4.70	---	---	5.31	5.33	6.99	4.96	4.19	3.70
9	3.71	3.80	6.81	4.48	---	---	5.21	5.04	6.39	4.56	3.89	3.72
10	3.69	3.78	7.01	4.37	---	---	5.21	4.82	6.55	4.34	3.78	3.70
11	3.67	3.78	5.92	4.24	---	---	5.05	5.05	6.24	4.19	3.70	3.69
12	3.66	3.98	5.41	4.15	---	---	4.99	5.40	5.67	4.11	3.64	3.61
13	3.63	3.89	5.11	4.13	---	---	4.91	5.05	5.90	3.99	3.61	3.55
14	3.63	3.84	4.84	4.18	---	---	4.79	4.86	6.85	4.04	3.59	3.50
15	3.63	3.81	4.64	4.24	---	---	4.75	10.52	5.89	4.02	3.57	4.22
16	3.60	3.80	4.66	4.23	---	---	4.58	7.58	5.32	3.91	---	7.20
17	3.58	4.30	4.70	4.17	---	---	6.42	6.21	5.06	3.89	---	5.30
18	3.65	8.19	4.55	4.10	---	5.59	9.08	5.89	4.74	3.84	---	4.48
19	3.67	5.96	4.49	4.07	---	5.46	6.78	13.27	4.48	3.81	---	4.15
20	3.71	5.14	4.35	4.09	---	5.33	6.36	14.11	5.01	3.83	---	4.04
21	3.68	4.72	4.20	4.61	---	5.28	5.96	8.04	5.54	3.84	---	3.92
22	3.68	4.46	4.03	7.12	---	5.52	5.65	6.45	6.11	4.05	---	3.81
23	3.73	4.30	4.06	6.96	---	5.61	5.69	5.77	6.30	4.10	---	3.74
24	3.69	5.16	4.31	6.28	---	5.48	6.20	5.32	5.24	3.93	---	3.68
25	3.98	6.26	4.69	5.87	---	5.31	5.90	4.99	4.79	3.83	---	3.65
26	5.31	5.53	4.59	5.75	---	5.14	5.59	4.77	5.37	3.78	---	3.61
27	4.54	5.53	4.50	5.73	---	6.03	5.38	4.68	4.79	3.75	3.40	3.57
28	4.20	6.14	4.48	5.36	---	6.61	5.19	4.99	4.40	3.73	3.39	3.53
29	4.08	5.67	4.46	5.06	---	6.10	5.09	10.25	4.21	4.16	3.38	3.52
30	3.99	5.50	4.74	4.71	---	5.93	5.18	7.67	4.09	4.28	3.40	3.53
31	3.92	---	5.44	4.65	---	5.82	---	11.36	---	3.96	3.57	---
MEAN	3.82	4.60	4.94	5.04	---	---	5.57	6.57	6.53	4.35	---	3.97
MAX	5.31	8.19	7.01	7.12	---	---	9.08	14.11	13.35	7.22	---	7.20
MIN	3.58	3.78	4.03	4.07	---	---	4.58	4.68	4.09	3.73	---	3.50

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV
(National stream-quality accounting network station)

LOCATION.--Lat 39°03'35", long 81°23'25", Wirt County, Hydrologic Unit 05030203, on left bank at end of Washington Street in Elizabeth, 1.0 mi (1.6 km) upstream from Tucker Creek, 2.3 mi (3.7 km) northeast of Palestine, 2.4 mi (3.9 km) upstream from old lock 3, and at mile 27.9 (44.9 km).

DRAINAGE AREA.--1,515 mi² (3,924 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1915 to September 1922 (gage heights only), July to September 1939 (fragmentary), October 1939 to current year. Monthly discharge only October 1939 to September 1941, published in WSP 1305.

REVISED RECORDS.--WSP 953: 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 585.51 ft (178.463 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 17, 1950, water-stage recorders or nonrecording gages at old locks 3 and 4 at various datums. Auxiliary water-stage recorder 3.0 mi (4.8 km) upstream from base gage at old lock 4 at datum 596.08 ft (181.685 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for December, January, and August, which are poor. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² (128.2 km²), and since 1979 by Burnsville Lake (station 03151518). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--42 years, 2,127 ft³/s (60.24 m³/s), 19.07 in/yr (484 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,700 ft³/s (1,440 m³/s) Mar. 7, 1967, gage height, 39.14 ft (11.930 m), backwater, from rating curve extended above 39,000 ft³/s (1,100 m³/s); minimum, 0.6 ft³/s (0.017 m³/s) July 14, 1959 (filling pool above old lock 3).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1939, reached a stage of 32.25 ft (9.830 m), from flood-marks at old lock 4, discharge about 53,000 ft³/s (1,500 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,300 ft³/s (688 m³/s) June 7, gage height, 26.00 ft (7.925 m); minimum, 45 ft³/s (1.27 m³/s) Sept. 1, gage height, 13.67 ft (4.167 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	325	2520	1370	784	6920	1700	1980	9410	1680	553	55
2	101	305	2220	2050	9550	8170	1320	3920	9180	3010	419	95
3	95	262	2140	1830	10000	5580	1170	4950	12900	1590	338	119
4	89	248	2310	1340	4350	3700	1070	2840	7990	1230	270	107
5	83	244	1830	890	2600	4220	1150	1970	9260	1280	222	110
6	80	244	1490	670	2100	6110	1270	1530	16900	1580	223	280
7	74	248	1260	690	2020	5980	1260	1660	23400	2430	262	320
8	83	240	1200	670	2030	4040	1090	1830	15000	1540	275	253
9	95	214	2350	610	1640	2870	938	1640	6370	1050	365	183
10	98	183	4550	550	1650	1860	867	1280	6510	771	454	140
11	92	176	4420	500	3620	1500	828	1200	8190	584	400	116
12	80	179	2560	410	5700	1270	757	1550	5750	445	320	101
13	74	183	1740	393	4080	1110	774	1960	5310	382	280	119
14	68	202	1310	385	3300	1030	742	1790	5230	337	240	172
15	65	202	999	376	3390	832	697	5460	5310	307	200	164
16	60	194	814	347	3110	809	647	8530	2480	351	190	457
17	60	210	749	346	4220	1100	1040	4650	1930	324	210	2640
18	65	1780	673	310	4630	1620	6200	3050	1250	275	190	2160
19	62	4670	641	305	4070	1660	8070	7990	984	242	170	1650
20	65	2150	530	304	3820	1500	4780	17700	847	222	150	940
21	132	1350	410	307	7090	1290	3750	11800	1130	216	140	557
22	187	984	340	748	8160	1190	2660	5510	2360	222	130	413
23	194	814	336	2210	7560	1160	2450	3840	4340	218	120	305
24	198	949	321	2900	12800	1100	4130	2280	2800	259	120	214
25	219	2170	260	2330	10100	1010	4150	1390	1610	337	80	157
26	262	2910	310	2140	5690	954	3050	983	1180	289	54	119
27	585	1790	460	2100	4580	1980	2300	941	1150	324	50	98
28	790	2390	540	2260	4080	3950	1800	775	1050	294	48	86
29	571	2800	508	2050	---	3760	1470	3060	830	239	48	77
30	430	2700	577	1370	---	2710	1290	5490	651	379	52	71
31	350	---	750	810	---	2280	---	8500	---	709	52	---
TOTAL	5517	31316	41118	33571	136724	83265	63420	122049	171302	23116	6625	12278
MEAN	178	1044	1326	1083	4883	2686	2114	3937	5710	746	214	409
MAX	790	4670	4550	2900	12800	8170	8070	17700	23400	3010	553	2640
MIN	60	176	260	304	784	809	647	775	651	216	48	55

CAL YR 1980 TOTAL 746591 MEAN 2040 MAX 20500 MIN 60 MEAN# 2040 CFSM# 1.35 IN# 18.38
WTR YR 1981 TOTAL 730301 MEAN 2001 MAX 23400 MIN 48 MEAN# 2002 CFSM# 1.32 IN# 17.92

* Adjusted for change in contents in Burnsville Lake.

LITTLE KANAWHA RIVER BASIN

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03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965-67, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT												
21...	1130	129	210	6.8	15.0	--	--	--	--	--	68	16
NOV												
12...	1000	179	142	6.3	8.5	5.0	6.1	.32	2	1	52	23
DEC												
09...	1200	2330	165	7.0	9.0	--	--	--	--	--	42	21
JAN												
13...	1000	405	155	7.3	1.0	--	--	--	--	--	49	12
20...	1230	538	170	7.1	1.0	1.1	12.8	.63	48	29	54	25
MAR												
16...	1600	800	180	7.4	6.0	--	--	--	--	--	51	28
24...	1330	1100	130	7.7	12.0	3.5	11.5	.54	11	K6	46	--
MAY												
12...	0845	1450	205	7.5	15.0	--	--	--	--	--	51	21
26...	1345	940	102	6.8	21.0	3.3	8.5	.75	33	23	37	--
JUL												
24...	1135	244	165	7.5	26.5	--	--	--	--	--	56	--
28...	1430	280	175	7.3	26.0	17	7.4	--	52	112	62	--
AUG												
26...	1630	54	180	7.5	26.0	--	--	--	--	--	60	--
SEP												
04...	1045	107	205	7.4	23.5	3.9	7.0	.43	52	48	64	--

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
OCT												
21...	--	19	4.9	11	25	.6	2.4	63	26	13	.1	2.2
NOV												
12...	.0	15	3.4	6.8	21	.4	2.3	29	17	11	.1	2.5
DEC												
09...	.0	12	2.8	9.1	--	.7	--	25	18	13	--	5.9
JAN												
13...	.0	14	3.5	7.8	--	.5	--	45	22	9.8	--	5.7
20...	--	15	3.9	8.4	25	.5	1.2	29	23	10	<.1	5.5
MAR												
16...	.0	14	3.8	7.2	--	.4	--	28	23	7.2	--	--
24...	--	13	3.3	5.9	21	.4	1.3	22	21	7.4	<.1	5.4
MAY												
12...	.0	14	3.9	8.2	--	.6	--	37	19	7.1	--	5.0
26...	--	10	2.8	4.4	20	.3	1.2	16	18	4.3	<.1	6.1
JUL												
24...	.0	16	3.8	6.3	--	.4	--	43	17	4.3	--	--
28...	--	18	4.1	8.4	22	.5	2.3	43	21	9.3	<.1	2.5
AUG												
26...	--	17	4.3	8.1	--	.5	--	41	26	9.7	--	2.4
SEP												
04...	.0	18	4.5	11	27	.6	2.3	44	26	15	<.1	2.6

K Results based on colony count outside the
 'acceptable range (non-ideal colony count).

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 21...	120	110	.16	41.8	--	--	--	--	--	--	--	--
NOV 12...	92	77	.13	44.5	--	.20	.20	.040	--	.35	.08	.39
DEC 09...	82	73	.11	516	--	--	--	--	--	--	--	--
JAN 13...	91	88	.12	99.5	<.03	--	.51	--	7.80	--	--	--
20...	88	86	.12	128	--	.46	.45	.050	--	.14	.13	.19
MAR 16...	93	--	.13	201	--	--	--	--	--	--	--	--
24...	167	72	.23	496	--	.41	.38	.040	--	.21	.14	.25
MAY 12...	97	77	.13	380	--	--	.22	--	--	--	--	--
26...	65	58	.09	165	--	.48	.45	.030	--	.33	.27	.36
JUL 24...	94	--	.13	61.9	--	--	--	--	--	--	--	--
28...	123	92	.17	93.0	--	.02	.02	.040	--	.26	--	.30
AUG 26...	114	--	.16	16.6	--	--	--	--	--	--	--	--
SEP 04...	116	106	.16	33.5	--	.02	.02	.080	--	.44	.33	.52
DATE	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)
NOV 12...	.27	.12	.59	2.6	.030	.020	--	--	1	0	1	100
DEC 09...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	--	--	--	--	--	--	<.010	<.03	--	--	--	--
20...	.01	.18	.65	2.9	.010	<.010	--	--	--	--	--	--
MAR 24...	.09	.16	.66	2.9	.020	.010	--	--	0	0	0	100
MAY 12...	--	--	--	--	--	--	<.010	--	--	--	--	--
26...	.06	.30	.84	3.7	<.010	<.010	--	--	--	--	--	--
JUL 28...	--	<.10	.32	1.4	.050	<.010	--	--	2	1	1	<50
AUG 26...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 04...	.11	.41	.54	2.4	.020	.010	--	--	2	0	2	200
DATE	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDED RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)
NOV 12...	50	50	--	1	0	1	8	0	8	4	3	1
DEC 09...	--	60	<0	--	--	2	--	--	--	--	--	<3
JAN 13...	--	50	<1	--	--	<1	--	--	--	--	--	<3
20...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 24...	100	0	--	0	0	0	10	--	<10	1	0	1
MAY 12...	--	60	<1	--	--	6	--	--	--	--	--	<3
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	--	<50	--	2	1	1	20	0	20	2	0	2
AUG 26...	--	60	1	--	--	1	--	--	--	--	--	3
SEP 04...	100	100	--	<1	--	<1	10	--	<10	1	--	<1

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE D RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV- ERABLE (UG/L AS MN)
OCT 21...	--	--	--	410	380	30	--	--	--	--	290	60
NOV 12...	17	16	1	810	530	280	5	0	5	--	90	0
DEC 09...	--	--	<10	1300	1200	110	--	--	<10	<4	100	60
JAN 13...	--	--	<10	410	360	50	--	--	<10	<4	70	20
MAR 16...	--	--	--	760	720	40	--	--	--	--	100	40
24...	1	0	1	540	540	0	4	0	4	--	30	30
MAY 12...	--	--	20	760	680	87	--	--	19	<4	70	20
JUL 24...	--	--	--	550	520	30	--	--	--	--	120	110
28...	4	3	1	870	850	20	7	0	7	--	160	120
AUG 26...	--	--	10	410	390	20	--	--	10	4	110	80
SEP 04...	5	3	2	610	600	10	2	1	1	--	690	630

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE D RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)
OCT 21...	230	--	--	--	--	--	--	--	--	--	--	--
NOV 12...	90	<.1	--	<.1	--	2	0	2	0	0	0	0
DEC 09...	40	--	--	--	<10	--	--	--	--	--	--	--
JAN 13...	50	--	--	--	<10	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 16...	60	--	--	--	--	--	--	--	--	--	--	--
24...	0	<.1	--	<.1	--	3	0	3	0	0	0	0
MAY 12...	54	--	--	--	<10	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 24...	7	--	--	--	--	--	--	--	--	--	--	--
28...	40	.9	.0	.9	--	2	0	2	<1	--	<1	<1
AUG 26...	29	--	--	--	10	--	--	--	--	--	--	--
SEP 04...	60	.3	.0	.3	--	1	--	<1	<1	--	<1	<1

DATE	SILVER, SUS- PENDE D RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE D RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE D RECOV- ERABLE (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--
NOV 12...	0	0	--	--	35	30	5	--	3.5	.2	1200
DEC 09...	--	--	65	<6.0	--	--	13	--	--	--	--
JAN 13...	--	--	77	<6.0	--	--	15	--	--	--	--
20...	--	--	--	--	--	--	--	1.2	--	--	--
MAR 16...	--	--	--	--	--	--	--	--	--	--	--
24...	0	0	--	--	20	20	0	--	1.4	--	26
MAY 12...	--	--	88	<6.0	--	--	320	--	--	--	--
26...	--	--	--	--	--	--	--	1.5	--	--	260
JUL 24...	--	--	--	--	--	--	--	--	--	--	--
28...	--	<1	--	--	24	20	4	--	1.9	.4	2300
AUG 26...	--	--	110	6.0	--	--	20	--	--	--	--
SEP 04...	--	<1	--	--	30	--	<10	--	2.1	.4	2000

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 12+80 1000	MAR 24+81 1330	MAY 26+81 1345	JUL 28+81 1430	SEP 4+81 1045					
TOTAL CELLS/ML	1200	26	260	2300	2000					
DIVERSITY: DIVISION	0.6	1.0	1.3	1.6	2.0					
..CLASS	0.6	1.0	1.3	1.6	2.1					
...ORDER	0.7	1.0	1.5	2.4	2.4					
....FAMILY	0.7	1.0	1.5	2.8	3.1					
.....GENUS	0.7	1.0	1.7	2.9	3.3					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)										
..BACILLARIOPHYCEAE										
...BACILLARIALES										
....NITZSCHIAEAE										
.....NITZSCHIA	--	-	--	-	13	5	82	4	--	-
....EUPODIALES										
.....COSCINODISCACEAE										
....CYCLOTELLA	39	3	13#	50	26	10	150	7	98	5
....MELOSIRA	--	-	--	-	26	10	69	3	--	-
...FRAGILARIALES										
....FRAGILARIACEAE										
.....SYNEDRA	39	3	--	-	--	-	--	-	--	-
...NAVICULALES										
....CYMBELLACEAE										
.....CYMBELLA	--	-	--	-	--	-	--	-	2	1
....NAVICULACEAE										
.....NAVICULA	--	-	--	-	--	-	14	1	--	-
...SURIWELLALES										
....SURIWELLACEAE										
.....SURIWELLA	--	-	--	-	--	-	--	-	14	1
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....DICTYOSPHAERIACEAE										
.....DICTYOSPHAERIUM	--	-	--	-	--	-	220	10	--	-
....HYDRODICTYACEAE										
.....PEDIASTRUM	--	-	--	-	--	-	--	-	110	5
....MICRACTINIACEAE										
.....MICRACTINIUM	--	-	--	-	--	-	14	1	84	4
....DUCYSTACEAE										
.....ANKISTRODESMUS	13	1	--	-	13	5	82	4	98	5
....KIRCHNERIELLA	--	-	--	-	--	-	14	1	42	2
....SELENASTRUM	--	-	--	-	--	-	14	1	--	-
....TREPANARIA	--	-	--	-	--	-	--	-	28	1
....SCENEDESMACEAE										
.....COELASTRUM	--	-	--	-	--	-	--	-	110	5
....CRUCIGENIA	--	-	--	-	--	-	82	4	--	-
....SCENEDESMUS	26	2	--	-	--	-	--	-	--	-
....TETRASTRUM	--	-	--	-	--	-	--	-	50	3
...VOLVOCALES										
....CHLAMYDOMONADACEAE										
.....CHLAMYDOMONAS	13	1	--	-	--	-	14	1	130	6
CHRYSOPHYTA										
..CHRYSOPHYCEAE										
...OCHROMONADALES										
....OCHROMONADACEAE										
.....OCHROMONAS	--	-	--	-	--	-	82	4	50	3
....SYNURACEAE										
.....MALLONAS	--	-	--	-	--	-	14	1	14	1
...XANTHOPHYCEAE										
....MISCHOCOCCALES										
....SCIADACEAE										
.....CENTRITRACTUS	--	-	--	-	--	-	--	-	14	1
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTIDACEAE										
.....CHROMONAS	--	-	--	-	13	5	--	-	250	12
....CRYPTOMONADACEAE										
.....CRYPTOMONAS	--	-	--	-	--	-	14	1	98	5
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
....CHROOCOCCACEAE										
.....ANACYSTIS	--	-	13#	50	170#	65	690#	30	770#	38
...NOSTOCALES										
....NOSTOCACEAE										
.....ANABAENA	--	-	--	-	--	-	--	-	14	1
...OSCILLATORIALES										
....OSCILLATORIACEAE										
.....OSCILLATORIA	1000#	89	--	-	--	-	650#	29	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENAEAE										
.....EUGLENA	--	-	--	-	--	-	14	1	--	-
....PHACUS	--	-	--	-	--	-	27	1	--	-
....TACHYLOMONAS	--	-	--	-	--	-	--	-	28	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 1%.

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

LITTLE KANAWHA RIVER BASIN

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03155500 HUGHES RIVER AT CISCO

LOCATION.--Lat 39°07'10", long 81°16'40", Ritchie County, Hydrologic Unit 05030203, on right bank 100 ft (30 m) downstream from confluence of North and South Forks, 1.0 mi (1.6 km) upstream from Cisco, 5.0 mi (8.0 km) south of Petroleum, and at mile 14.0 (22.5 km).

DRAINAGE AREA.--452 mi² (1,171 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1915 to September 1922 (gage heights only), October 1928 to September 1931, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1965, published as "at Cisco."

REVISED RECORDS.--WSP 893: 1939. WSP 1113: 1947.

GAGE.--Water-stage recorder. Datum of gage is 607.92 ft (185.294 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Sept. 30, 1931, nonrecording gage at site 0.9 mi (1.4 km) downstream and Mar. 5, 1939, to Sept. 30, 1945, nonrecording gage at site 1.0 mi (1.6 km) downstream, both at datum 2.56 ft (0.780 m) lower. Oct. 1, 1945, to June 30, 1946, nonrecording gage at bridge across mouth of North Fork at present datum.

REMARKS.--Water-discharge records good except those for Dec. 20 to Feb. 15, which are poor.

AVERAGE DISCHARGE.--46 years, 585 ft³/s (16.57 m³/s) 17.58 in/yr (447 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft³/s (898 m³/s) June 26, 1950, gage height, 32.69 ft (9.964 m); no flow July 26, Aug. 2-6, Sept. 4 to Dec. 5, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,710 ft³/s (275 m³/s) Feb. 2, gage height, 18.29 ft (5.575 m), no other peak above base of 9,500 ft³/s (270 m³/s); minimum, 2.7 ft³/s (0.076 m³/s) Aug. 30, gage height, 1.78 ft (0.543 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	34	393	333	392	2350	386	3200	1370	98	58	55
2	9.5	28	303	589	6260	1420	315	4200	1080	223	40	45
3	9.0	21	451	547	3330	846	263	1260	840	183	31	35
4	8.5	20	479	463	975	597	228	727	1320	195	26	23
5	7.5	18	292	300	630	1790	274	509	901	223	25	77
6	7.0	16	228	200	520	2540	363	431	4390	1300	56	110
7	6.7	17	285	214	429	1120	320	502	6450	505	79	60
8	6.7	18	650	180	372	710	256	400	1490	250	75	39
9	6.2	18	748	150	360	541	231	306	900	162	56	31
10	6.4	18	1710	120	419	481	210	249	1700	119	45	25
11	5.3	18	783	100	1880	448	206	442	1290	94	34	20
12	6.4	17	419	81	1500	355	305	742	686	73	30	16
13	7.5	16	289	70	1000	336	670	563	642	58	28	14
14	5.1	14	219	74	870	304	646	407	1750	71	28	14
15	4.3	13	169	77	760	265	512	3640	1030	83	25	14
16	3.7	15	146	83	870	287	363	2410	501	58	22	24
17	3.7	19	140	78	1990	594	842	934	543	43	20	39
18	3.7	525	131	72	2440	516	2860	595	355	35	19	58
19	3.9	672	115	66	1360	394	1350	1680	238	32	16	53
20	6.4	283	92	64	1640	325	831	4540	186	46	13	35
21	6.2	168	74	78	3120	280	603	1440	342	46	11	25
22	5.3	115	57	371	1600	244	441	733	1090	107	10	20
23	5.1	89	44	1110	2330	214	537	476	961	180	10	16
24	5.1	203	49	972	3890	197	1920	333	405	98	8.8	12
25	36	1100	94	681	1530	179	1230	250	242	73	7.4	10
26	156	510	97	962	879	161	799	249	192	62	4.4	9.6
27	201	316	93	1840	606	1200	593	233	183	67	3.8	8.4
28	118	716	89	1060	615	1920	460	185	140	89	3.6	8.4
29	76	576	83	561	---	868	372	1220	100	137	3.2	7.1
30	55	448	99	379	---	624	345	806	83	117	4.2	6.8
31	44	---	161	290	---	504	---	2740	---	79	22	---
TOTAL	835.2	6041	8982	12165	42567	22610	18731	36402	31400	4906	814.4	910.3
MEAN	26.9	201	290	392	1520	729	624	1174	1047	158	26.3	30.3
MAX	201	1100	1710	1840	6260	2540	2860	4540	6450	1300	79	110
MIN	3.7	13	44	64	360	161	206	185	83	32	3.2	6.8
CFSM	.06	.45	.64	.87	3.36	1.61	1.38	2.60	2.32	.35	.06	.07
IN.	.07	.50	.74	1.00	3.50	1.86	1.54	3.00	2.58	.40	.07	.07

CAL YR 1980 TOTAL 209942.2 MEAN 574 MAX 6650 MIN 3.7 CFSM 1.27 IN 17.28
WTR YR 1981 TOTAL 186363.9 MEAN 511 MAX 6450 MIN 3.2 CFSM 1.13 IN 15.34

LITTLE KANAWHA RIVER BASIN

03155500 HUGHES RIVER AT CISCO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965-66, 1976 to August 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 20...	1600	6.8	245	5.9	13.0	87	28	.7	24	6.5	13	24
DEC 08...	1500	715	200	7.0	8.0	60	25	.0	17	4.1	10	--
JAN 12...	1500	81	220	6.5	.5	65	26	.0	18	4.9	11	--
MAR 16...	1415	268	190	7.5	4.0	57	26	.0	16	4.2	7.8	--
MAY 11...	1430	480	170	7.4	17.0	60	23	.0	16	4.6	10	--
JUL 24...	0930	89	180	6.7	23.0	61	--	.0	17	4.5	8.9	--
AUG 26...	1200	4.7	250	7.3	25.0	79	--	.0	22	5.9	14	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 20...	.6	3.7	72	18	20	.0	2.9	150	125	.20	2.7
DEC 08...	.6	--	43	22	19	--	5.7	116	99	.16	224
JAN 12...	.6	--	48	25	19	--	4.7	119	109	.16	26.0
MAR 16...	.4	--	38	21	11	--	--	106	--	.14	76.7
MAY 11...	.7	--	45	20	10	--	4.4	111	89	.15	144
JUL 24...	.5	--	44	15	12	--	--	117	--	.16	28.1
AUG 26...	.7	--	62	15	24	--	2.2	147	--	.20	1.8

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 20...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	70	<0	2	<3	<10
JAN 12...	<.010	<.03	.44	.070	.200	.61	70	<1	1	<3	<10
MAR 16...	--	--	--	--	--	--	--	--	--	--	--
MAY 11...	<.010	--	.21	.250	<.010	--	70	<1	8	<3	23
JUL 24...	--	--	--	--	--	--	--	--	--	--	--
AUG 26...	<.010	--	.04	.010	<.010	--	90	1	1	3	10

LITTLE KANAWHA RIVER BASIN

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03155500 HUGHES RIVER AT CISCO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDEO RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDEO RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 20...	460	280	180	--	--	250	20	230	--	--	--	--
DEC 08...	1300	1200	65	<10	<4	110	50	57	<10	100	<6.0	17
JAN 12...	370	320	50	<10	<4	90	0	90	<10	110	<6.0	13
MAR 16...	1100	1000	80	--	--	110	50	60	--	--	--	--
MAY 11...	960	880	86	11	<4	80	20	62	<10	110	<6.0	330
JUL 24...	690	640	50	--	--	80	50	30	--	--	--	--
AUG 26...	550	500	54	10	4	160	30	130	10	160	6.0	45

OHIO RIVER MAIN STEM

03159530 OHIO RIVER AT BELLEVILLE DAM, WV

LOCATION.--Lat 39°07'07", long 81°44'32", Wood County, Hydrologic Unit 05030202, at right end of Belleville Dam on Ohio River, at Reedsville, Ohio, 1.7 mi (2.7 km) upstream from Wood-Jackson County line, 4.6 mi (7.4 km) downstream from Hocking River, and at mile 203.9 (328.1 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--39,300 mi² (101,800 km²), approximately.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Gate-opening and water-stage recorder. Headwater reference gage 0.4 mi (0.6 km) upstream at datum 570.00 ft (173.736 m) Ohio River datum. Tailwater reference gage 0.5 mi (0.8 km) downstream at datum 22.00 ft (6.706 m) lower.

REMARKS.--Records good. Daily discharge computed from head, gate openings, and lockages. Flow regulated by Ohio River system of locks, dams, and reservoirs.

AVERAGE DISCHARGE.--7 years, 62,370 ft³/s (1,766 m³/s), 21.55 in/yr (547 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 390,000 ft³/s (11,000 m³/s) Jan. 27, 1978; minimum daily, 5,100 ft³/s (144 m³/s) Sept. 7, 8, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 305,000 ft³/s (8,640 m³/s) Feb. 21; minimum daily, 8,700 ft³/s (246 m³/s) Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11000	34100	52000	29700	39100	171000	61400	174000	79800	61000	34600	14300
2	15300	31900	49200	25600	140000	162000	65900	151000	70500	62900	26500	22900
3	10900	27500	51500	28200	146000	145000	53700	134000	64400	45400	22300	44700
4	14100	23100	65200	31700	103000	125000	53500	111000	78500	37700	20500	55600
5	15700	27400	66900	19000	67800	126000	64600	94000	91900	35800	21600	64000
6	11800	24500	54700	18000	60500	132000	83200	87400	186000	36800	28900	64500
7	14100	20900	47500	14800	56100	118000	82000	84600	207000	39900	13800	50500
8	17400	22400	51200	22400	54000	98000	63200	76900	185000	31800	14900	36000
9	12700	22600	62300	23500	47800	81200	54400	61400	120000	31400	22100	35800
10	12900	20900	85600	20000	39500	70700	55200	52900	167000	25800	31100	36700
11	15500	27900	93200	17900	63200	66200	46600	46000	208000	20400	15300	38200
12	12700	24800	84100	21200	86500	66500	98100	64300	149000	20300	13700	28600
13	11900	23700	66100	15100	82600	52500	207000	75000	120000	16600	19300	24700
14	12000	23800	62400	17200	76400	53600	205000	71900	174000	24200	18200	20900
15	13700	21400	54300	22100	75800	49100	170000	84000	171000	24600	15500	23100
16	14500	19200	48800	24700	69900	49100	143000	111000	133000	15800	15500	19200
17	16900	33700	42400	25300	99100	54000	139000	104000	125000	14800	15600	33000
18	16800	44400	38500	22400	132000	57300	140000	91400	110000	12900	18500	36100
19	16600	49300	37300	18800	155000	52800	141000	81800	89100	12300	19300	27800
20	16200	31500	30200	17300	216000	46200	121000	109000	74400	12800	18800	25300
21	15200	35700	26900	18300	305000	42200	104000	110000	70700	22500	9710	21900
22	15500	27400	22300	19300	286000	37100	92900	84500	90000	31000	9190	22000
23	10800	26200	18400	24400	297000	37500	83300	66000	96900	26500	9070	19900
24	12400	47000	24800	33800	282000	35400	95200	53400	76500	14300	9080	19800
25	25300	68800	26900	26500	289000	42800	99900	34500	71100	13700	10200	18800
26	40700	70200	17300	23000	204000	42200	97600	33000	91100	16700	10700	13900
27	52300	69700	17600	45400	180000	45600	91600	38000	77000	23700	10600	14300
28	52100	66400	16800	61100	170000	63400	84400	43800	68000	28100	9470	14200
29	38400	64700	19600	55400	---	75400	84600	54000	54700	61700	8700	13500
30	37600	55600	27800	45800	---	70700	131000	64000	49000	43100	14000	13500
31	34800	---	20100	38700	---	63400	---	68300	---	44200	16300	---
TOTAL	617800	1086700	1381900	826600	3823300	2331900	3012300	2515100	3348600	908700	523020	873700
MEAN	19930	36220	44580	26660	136500	75220	100400	81130	111600	29310	16870	29120
MAX	52300	70200	93200	61100	305000	171000	207000	174000	208000	62900	34600	64500
MIN	10800	19200	16800	14800	39100	35400	46600	33000	49000	12300	8700	13500
CAL YR 1980	TOTAL	22429500	MEAN	61280	MAX	208000	MIN	10200				
WTR YR 1981	TOTAL	21249620	MEAN	58220	MAX	305000	MIN	8700				

03176500 NEW RIVER AT GLEN LYN, VA
(National stream-quality accounting network station)

LOCATION.--Lat 37°22'22", long 80°51'39", Giles County, Hydrologic Unit 05050002, on right bank at upstream side of bridge on U.S. Highway 460 at Glen Lyn, 0.3 mi (0.5 km) upstream from East River, and 6.3 mi (10.1 km) downstream from Wolf Creek.

DRAINAGE AREA.--3,768 mi² (9,759 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1927 to current year.

REVISED RECORDS.--WSP 758: Drainage area. WSP 1305: 1928(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 1,490.24 ft (454.225 m) National Geodetic Vertical Datum of 1929. Aug. 11, 1927, to Oct. 16, 1934, on left bank just upstream from highway bridge at same datum, and Oct. 17, 1934, to June 16, 1939, on left bank 200 ft (61 m) upstream from highway bridge at same datum.

REMARKS.--Records good. Flow regulated since 1939 by Claytor Reservoir (station 03169000) 55 mi (88 km) above station. Corps of Engineers satellite and gage-height telemeters at station.

AVERAGE DISCHARGE.--54 years, 4,997 ft³/s (141.5 m³/s), 18.01 in/yr (457 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 226,000 ft³/s (6,400 m³/s) Aug. 14, 1940, gage height, 27.50 ft (8.382 m), from rating curve extended above 89,000 ft³/s (2,500 m³/s) on basis of slope-area measurement of peak flow; minimum, 717 ft³/s (20.3 m³/s) Jan. 5, 1981, result of freezeup; minimum daily, 820 ft³/s (23.2 m³/s) Sept. 8, 1930; minimum gage height, 2.10 ft (0.640 m) Sept. 8, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,600 ft³/s (895 m³/s) May 29, gage height, 9.59 ft (2.923 m); minimum, 717 ft³/s (20.3 m³/s) Jan. 5, gage height, 2.67 ft (0.814 m); minimum daily, 871 ft³/s (24.7 m³/s) Jan. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	2560	2000	1600	2030	1160	3010	7630	3820	10000	2410	1480	1290	
2	2440	1140	2720	1370	1270	2770	7300	3400	9030	2340	992	1120	
3	2940	1040	2870	3220	6670	3920	6300	2390	9180	2270	940	1330	
4	3000	2100	2440	1350	5490	4370	5120	1320	7770	1540	1310	2300	
5	1440	1930	2470	880	4390	5290	2160	2820	6870	1300	1370	3470	
6	1300	1730	2890	2730	2860	5720	1900	2400	6930	1270	1610	3030	
7	2410	1630	1280	1970	2740	5900	4890	2500	9480	4080	1380	2080	
8	2510	2030	1150	1220	1380	2540	5860	2400	7290	4840	1610	3030	
9	2760	1190	1920	1250	1360	2930	4290	2060	7510	2860	1230	2260	
10	2390	1500	2430	1220	2990	5270	3700	1210	6380	2530	1180	1830	
11	2760	1730	2070	1060	6290	4950	2860	2280	6920	2090	1510	1800	
12	1330	1700	2030	1160	13800	5330	1750	5650	5790	1260	1780	1930	
13	1190	1630	2390	1610	10500	3200	1590	6820	4940	1070	2060	1220	
14	2530	2130	1250	1330	7030	2810	4220	5070	1980	2190	1830	1100	
15	1760	2740	1120	1220	5590	1990	3090	4300	1860	1930	1560	1170	
16	1650	1250	2040	1200	1940	1320	3700	3730	4610	2300	1140	1370	
17	1620	1000	1830	1160	4200	3340	4220	1930	4000	2550	957	1660	
18	1800	2630	1850	871	4180	2580	4360	2460	3740	3180	1030	2510	
19	1490	2160	1990	1330	4440	2160	2480	6990	3750	1520	1080	3340	
20	1250	2240	1890	1350	5610	2290	2970	7420	3430	1240	1150	1230	
21	2530	1950	1180	1310	6200	2460	10400	13200	1300	2290	1040	1140	
22	2320	1900	1150	1600	7450	1490	8040	13100	1190	1710	1060	2210	
23	2570	1170	1790	2570	6210	1390	7130	9870	3450	1860	1080	1310	
24	2360	1100	2160	2130	9000	4180	6240	6730	2830	1920	1000	1160	
25	1860	2240	1860	1160	8510	5530	5300	5330	2150	2140	1140	1110	
26	1430	2480	1170	1140	6230	4400	4010	4590	2460	1270	1190	1100	
27	3070	3630	1770	1820	5630	3530	1880	5480	2300	1110	1140	1050	
28	4180	2530	1340	1980	5090	5160	4330	13900	1210	2020	1070	1030	
29	2600	2970	1160	1970	---	2400	3200	25700	1060	1950	1160	1100	
30	2570	1880	1760	2090	---	2240	2780	17200	2420	1930	1080	1080	
31	3000	---	1790	1930	---	7300	---	13700	---	1400	1110	---	
TOTAL	69620	57350	57360	49231	148210	111280	133700	199770	141830	64370	39269	51360	
MEAN	2246	1912	1850	1588	5293	3590	4457	6444	4728	2076	1267	1712	
MAX	4180	3630	2890	3220	13800	7300	10400	25700	10000	4840	2060	3470	
MIN	1190	1000	1120	871	1160	1320	1590	1210	1060	1070	940	1030	
(*)	-25	+55	-24	+1	-29	-28	-35	+103	-90	+38	+11	-24	
MEAN#	2221	1967	1826	1589	5264	3562	4422	6547	4638	2114	1278	1688	
CFSM#	.59	.52	.48	.42	1.40	.95	1.17	1.74	1.23	.56	.34	.45	
IN#	.68	.58	.56	.49	1.46	1.09	1.31	2.00	1.37	.65	.39	.50	
CAL YR 1980 TOTAL	1845150	MEAN	5041	MAX	42600	MIN	1000	MEAN#	5044	CFSM#	2.34	IN#	18.23
WTR YR 1981 TOTAL	1123350	MEAN	3078	MAX	25700	MIN	871	MEAN#	3075	CFSM#	.82	IN#	11.08

* Change in contents, equivalent in cubic feet per second, in Claytor Reservoir; furnished by Appalachian Power Company.

Adjusted for change in contents.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1931, 1950, 1952, 1955-56, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1968 to current year.

WATER TEMPERATURES: October 1964 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1968-71, 1973-81): Maximum, 350 micromhos Nov. 6, 1968; minimum, 70 micromhos Mar. 26, 27, 1979.

WATER TEMPERATURES (water years 1964-71, 1973-81): Maximum, 29.0°C July 10, 1973, July 14, 19, 21, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 222 micromhos Jan. 18; minimum daily, 90 micromhos May 20, 27.

WATER TEMPERATURES: Maximum daily, 27.5°C July 14; minimum, 1.0°C Jan. 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
NOV											
04...	1030	3030	171	7.4	7.5	.40	6.7	29	K11	73	14
JAN											
20...	1045	1630	199	7.0	2.5	.40	12.4	140	27	82	24
MAR											
24...	1000	6100	146	7.7	5.0	1.1	13.2	33	K10	56	18
MAY											
19...	1040	4290	133	7.1	13.5	2.4	11.2	53	78	54	14
JUL											
28...	1045	3370	178	8.2	27.0	4.1	6.7	130	120	77	15
SEP											
29...	0945	1030	207	8.5	17.5	1.1	8.0	81	17	90	24

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	FLUOR- IDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
NOV											
04...	17	7.4	3.9	1.7	59	13	4.2	.1	4.9	84	90
JAN											
20...	19	8.4	6.4	1.6	58	21	5.4	.1	1.3	113	103
MAR											
24...	14	5.2	3.6	1.5	38	14	4.0	<.1	3.2	101	75
MAY											
19...	14	4.6	5.4	1.4	40	13	3.7	<.1	5.4	75	76
JUL											
28...	17	8.4	3.7	1.5	62	17	3.7	<.1	6.8	119	98
SEP											
29...	21	9.2	4.7	1.5	66	25	5.0	.1	4.6	126	116

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
NOV											
04...	.39	.42	.050	.040	.31	.07	.70	.49	.040	.040	1
JAN											
20...	1.1	1.1	<.010	.010	.19	.18	1.3	1.3	.060	<.010	--
MAR											
24...	1.5	1.5	.010	.010	.37	.10	1.9	1.6	.040	.030	<1
MAY											
19...	.96	.98	.020	.030	.46	.42	1.4	1.4	.060	.040	--
JUL											
28...	.64	.63	.020	.020	.29	.25	.93	.88	.070	.040	1
SEP											
29...	1.1	1.1	.070	.070	.50	.31	1.6	1.4	.060	.050	6

K Results based on colony count outside the acceptable range (non-ideal colony count).

KANAWHA RIVER BASIN

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03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
NOV 04...	1	100	30	1	1	10	10	<1	<1	1	<1
JAN 20...	--	--	--	--	--	--	--	--	--	--	--
MAR 24...	<1	100	<50	<1	<1	10	10	<1	<1	3	2
MAY 19...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	1	100	40	1	1	10	<10	2	1	6	2
SEP 29...	3	100	100	1	<1	20	10	6	3	6	1

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)
NOV 04...	220	40	<1	<1	20	5	<.1	<.1	1	<1	<1
JAN 20...	--	--	--	--	--	--	--	--	--	--	--
MAR 24...	240	20	30	4	50	10	<.1	<.1	5	3	<1
MAY 19...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	620	50	6	5	50	<1	<.1	<.1	11	1	<1
SEP 29...	70	<10	1	<1	10	10	.2	<.1	10	3	<1

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. FINER THAN .062 MM
NOV 04...	<1	<1	<1	20	1	--	--	.7	230	4	--
JAN 20...	--	--	--	--	--	4.4	--	--	--	1	--
MAR 24...	<1	<1	<1	30	10	--	3.4	.4	980	6	--
MAY 19...	--	--	--	--	--	--	--	--	350	14	--
JUL 28...	<1	<1	<1	20	20	--	14	.4	260	12	--
SEP 29...	<1	<1	<1	20	10	--	--	--	140	3	100

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	177	160	---	160	130	114	126	120	166	178	197
2	---	163	165	175	185	200	114	127	118	151	168	198
3	---	187	163	155	125	145	116	127	115	169	185	198
4	172	184	---	---	130	123	118	127	120	168	182	197
5	158	185	155	170	143	135	127	127	120	167	180	179
6	182	183	165	170	160	130	137	127	120	166	182	168
7	189	183	178	150	160	120	116	132	115	143	177	176
8	191	---	---	170	180	125	113	141	120	120	175	178
9	190	---	180	195	180	123	118	136	115	135	175	172
10	190	---	175	185	130	140	126	153	120	149	185	168
11	164	171	---	190	145	118	139	175	115	147	190	173
12	166	175	165	203	135	145	139	130	120	148	175	163
13	188	170	175	215	130	140	147	115	123	168	190	171
14	166	176	160	210	135	158	147	112	145	180	168	194
15	---	168	---	---	120	143	127	115	160	175	165	203
16	180	170	160	195	---	140	127	120	120	158	170	208
17	175	170	180	200	130	140	126	135	---	161	181	178
18	186	163	150	222	143	180	123	140	---	164	199	176
19	177	171	120	220	150	165	114	140	115	159	185	175
20	187	171	160	210	---	198	125	90	145	170	185	---
21	175	165	173	210	125	155	114	118	145	175	185	193
22	185	---	178	195	118	150	105	123	162	168	201	188
23	---	---	185	200	98	170	107	110	153	165	200	183
24	---	193	183	155	118	160	111	123	143	165	199	194
25	171	193	175	160	115	180	111	120	151	155	198	186
26	171	170	170	175	118	178	118	135	150	155	208	193
27	166	165	183	195	120	130	121	90	158	176	198	198
28	146	155	175	195	123	125	126	110	145	184	196	215
29	152	147	180	180	---	120	126	120	175	180	198	217
30	160	160	183	175	---	125	128	108	168	171	199	218
31	154	---	173	---	---	109	---	113	---	163	203	---
MEAN	174	173	169	188	138	145	123	125	135	162	186	188
WTR YR 1981	MEAN	158	MAX	222	MIN	90						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	11.5	8.0	---	4.5	9.0	14.0	17.0	19.0	24.0	22.5	24.0
2	---	11.0	9.0	6.5	6.0	9.0	10.0	16.0	19.5	23.0	23.5	24.0
3	---	11.0	7.5	4.5	5.0	8.5	11.0	14.0	20.0	22.0	25.0	24.0
4	18.0	11.0	---	---	3.5	7.0	12.0	16.0	22.0	23.0	26.0	24.0
5	17.0	12.0	7.0	3.0	2.0	8.0	14.0	18.5	22.5	23.0	26.5	24.0
6	15.0	11.5	8.0	3.0	4.5	6.0	13.0	20.0	21.0	24.5	27.0	24.0
7	16.0	11.0	9.0	4.0	2.5	8.0	14.0	18.5	20.5	24.5	27.0	23.5
8	16.0	---	---	2.0	4.0	5.0	14.5	18.0	22.0	25.0	26.5	23.0
9	12.0	---	10.0	3.0	2.5	6.5	15.0	19.0	23.0	25.0	26.0	21.5
10	12.5	---	10.5	2.0	4.0	7.0	14.0	19.5	23.0	27.0	26.0	20.0
11	20.0	12.0	---	2.5	6.0	7.0	15.0	19.0	23.0	26.5	26.0	20.5
12	17.0	10.0	6.5	2.0	5.0	7.5	16.0	16.5	22.5	27.0	25.0	22.0
13	15.0	8.0	7.5	3.0	5.5	8.0	16.5	16.0	22.5	26.5	26.0	22.0
14	14.0	8.5	5.5	4.0	4.5	7.5	17.0	16.0	22.5	27.5	25.0	22.5
15	---	10.0	---	---	6.0	9.5	17.0	18.0	24.0	25.5	24.5	23.5
16	15.0	11.0	7.0	4.5	---	9.5	15.0	16.0	24.5	24.5	25.0	23.0
17	16.0	8.0	7.0	4.0	7.5	8.5	14.5	15.0	---	25.0	25.0	21.5
18	14.0	10.0	7.0	4.0	8.0	8.0	14.5	17.0	---	26.0	24.5	20.0
19	17.5	9.0	7.0	4.5	8.5	7.0	14.0	16.0	24.0	26.0	24.0	18.5
20	16.5	6.5	5.0	4.0	---	5.0	16.0	14.0	24.0	26.0	23.5	---
21	16.0	8.0	3.0	4.0	9.0	5.5	15.0	14.0	24.0	26.5	23.0	18.0
22	15.5	---	3.0	4.0	7.0	6.0	15.0	17.0	25.0	26.5	23.0	18.0
23	---	---	5.0	1.0	9.0	5.0	15.5	17.0	24.5	27.0	23.0	18.5
24	---	10.0	4.0	7.0	8.5	6.0	14.0	18.0	24.5	27.0	23.0	17.0
25	14.0	8.5	3.5	7.0	7.5	8.5	13.0	19.0	26.0	27.0	24.0	16.5
26	14.0	8.0	2.5	7.5	7.0	9.0	13.0	20.0	25.0	26.5	23.0	18.0
27	10.0	7.0	2.0	7.5	7.5	9.5	13.5	16.0	23.5	26.5	23.0	18.0
28	12.5	7.0	3.0	8.0	8.0	9.5	17.0	16.5	23.0	26.5	23.5	19.0
29	13.0	6.5	5.5	7.5	---	10.0	18.0	17.0	23.0	26.5	23.5	17.5
30	13.0	6.0	6.0	7.0	---	10.5	17.0	18.0	23.5	24.5	24.0	17.5
31	13.0	---	7.0	---	---	14.0	---	18.0	---	24.0	24.0	---
MEAN	15.0	9.5	6.0	4.5	6.0	8.0	14.5	17.0	23.0	25.5	24.5	21.0
WTR YR 1981	MEAN	15.0	MAX	27.5	MIN	1.0						

KANAWHA RIVER BASIN

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03176500 NEW RIVER AT GLEN LYN, VA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 4,80 1030	MAR 24,81 1000	MAY 19,81 1040	JUL 28,81 1045	SEP 29,81 0945
TOTAL CELLS/ML	230	980	350	260	140
DIVERSITY: DIVISION	0.8	0.3	1.2	0.9	0.0
...CLASS	0.8	0.3	1.2	0.9	0.0
...ORDER	1.7	2.1	1.9	0.9	1.0
...FAMILY	1.7	2.2	2.3	0.9	1.0
...GENUS	1.9	2.8	3.1	1.5	1.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)										
..BACILLARIOPHYCEAE										
...ACHNANTHALES										
....ACHNANTHACEAE										
....ACHNANTHES	--	-	13	1	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-	68#	50
..BACILLARIALES										
...NITZSCHIA										
....NITZSCHIA	26	11	64	7	--	-	--	-	--	-
..EUPODISCALES										
...COSCINODISCAEAE										
....CYCLOTELLA	13	6	--	-	39	11	13	5	--	-
....MELOSIRA	120#	50	--	-	90#	26	--	-	--	-
....STEPHANODISCUS	--	-	280#	29	51	15	--	-	--	-
..FRAGILARIALES										
...FRAGILARIAEAE										
....ASTERIONELLA	--	-	52	5	--	-	--	-	--	-
....DIATOMA	--	-	210#	21	--	-	--	-	--	-
....SYNEDRA	--	-	150#	16	--	-	--	-	--	-
..NAVICULALES										
...CYMBELLACEAE										
....CYMBELLA	--	-	13	1	13	4	--	-	--	-
...GOMPHONEMACEAE										
....GOMPHONEMA	--	-	13	1	13	4	--	-	--	-
...NAVICULACEAE										
....NAVICULA	26	11	130	13	26	7	--	-	68#	50
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...MICRACTINIACEAE										
....MICRACTINIUM	--	-	--	-	13	4	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	13	1	13	4	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	52#	22	26	3	26	7	150#	60	--	-
....TETRASTRUM	--	-	--	-	--	-	52#	20	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	13	1	13	4	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
....CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	51	15	39	15	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

KANAWHA RIVER BASIN

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV

LOCATION.--Lat 37°32'45", long 81°00'30", Summers County, Hydrologic Unit 05050002, on left bank 1.2 mi (1.9 km) downstream from Mountain Creek, 2.5 mi (4.0 km) west of Pipestem, and at mile 8.0 (12.9 km).

DRAINAGE AREA.--363 mi² (940 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1705: 1959.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,527.35 ft (465.536 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Water-discharge records good except those for December, January, and February, which are poor. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

AVERAGE DISCHARGE.--31 years, 355 ft³/s (10.05 m³/s), 17.70 in/yr (450 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s (547 m³/s) Apr. 5, 1977, gage height, 15.82 ft (4.822 m); minimum, 7.0 ft³/s (0.20 m³/s) Sept. 21-23, 30, 1955, gage height, 1.60 ft (0.488 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1908, that of Apr. 5, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,790 ft³/s (221 m³/s) June 7, gage height, 10.86 ft (3.310 m), no other peak above base of 4,500 ft³/s (130 m³/s); minimum, 31 ft³/s (0.88 m³/s) Dec. 21, gage height, 1.88 ft (0.573 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	78	114	97	150	409	417	364	1060	196	84	37
2	50	80	111	88	287	412	443	316	3070	268	77	107
3	50	78	116	75	434	370	399	272	2270	171	73	111
4	50	80	111	62	350	335	353	243	1390	144	68	171
5	49	83	106	52	290	889	419	223	1850	131	65	250
6	48	85	99	59	240	1220	527	209	1860	631	68	149
7	45	80	91	88	210	931	472	199	5360	456	90	145
8	43	71	86	78	180	669	417	182	2460	372	129	105
9	43	64	86	68	160	520	399	165	1310	242	135	98
10	42	65	97	62	140	435	468	156	919	169	94	88
11	41	68	107	56	369	380	562	856	975	140	75	68
12	39	58	100	50	647	321	583	936	679	123	81	56
13	37	50	94	46	500	280	595	570	538	109	82	50
14	36	47	89	66	380	253	640	410	468	463	73	47
15	36	47	83	82	320	224	757	455	350	656	72	58
16	37	49	80	76	275	238	645	472	171	595	87	220
17	36	63	79	68	323	355	997	372	147	565	80	250
18	38	155	76	62	536	366	2090	313	157	295	61	144
19	39	179	70	56	602	350	1360	1420	203	224	53	102
20	41	131	74	54	1110	322	1540	3990	158	194	48	93
21	53	98	39	75	1140	291	2060	2300	128	174	46	81
22	49	80	45	97	790	272	1260	1250	250	167	45	71
23	42	76	61	123	881	285	911	834	201	139	43	59
24	41	201	75	142	1210	347	1040	556	166	184	42	51
25	68	334	54	127	833	746	899	424	147	133	41	47
26	168	241	64	140	594	916	727	349	173	109	40	45
27	143	179	76	227	448	861	612	403	199	100	38	44
28	95	155	89	304	370	748	520	1910	148	100	36	43
29	77	143	93	266	---	587	434	3190	127	143	34	42
30	67	130	100	198	---	519	387	2390	127	142	34	40
31	68	---	98	116	---	476	---	1460	---	101	36	---
TOTAL	1722	3248	2663	3160	13769	15327	22933	27189	27061	7636	2030	2872
MEAN	55.5	108	85.9	102	492	494	764	877	902	246	65.5	95.7
MAX	168	334	116	304	1210	1220	2090	3990	5360	656	135	250
MIN	36	47	39	46	140	224	353	156	127	100	34	37
CFSM	.15	.30	.24	.28	1.36	1.36	2.11	2.42	2.49	.68	.18	.26
IN.†	.18	.33	.27	.32	1.41	1.57	2.35	2.79	2.77	.78	.21	.29
IN.*	.31	.55	1.10	.11	2.38	2.27	1.96	2.85	1.80	1.63	.48	1.24

CAL YR 1980 TOTAL 174843 MEAN 478 MAX 3690 MIN 36 CFSM 1.32 IN 17.92
WTR YR 1981 TOTAL 129610 MEAN 355 MAX 5360 MIN 34 CFSM .98 IN 13.28

† Runoff.

* Rainfall.

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 03...	1100	54	362	8.5	15.0	130	38	.0	36	8.9	20	25
NOV 14...	1115	45	340	8.3	4.5	120	33	.0	36	8.4	18	--
DEC 17...	1200	84	300	8.8	2.5	100	22	.0	29	6.6	18	--
FEB 10...	1500	143	280	8.1	.5	31	0	.0	9.1	2.1	7.3	--
MAR 24...	1300	305	340	8.9	5.5	74	17	.0	20	5.9	38	--
MAY 12...	1415	900	170	7.4	12.0	49	16	--	14	3.4	7.5	--
JUN 30...	1800	125	255	8.2	22.0	88	27	.0	23	7.3	17	--
JUL 22...	1500	168	240	8.4	26.0	100	--	--	30	6.7	14	--
AUG 26...	1715	37	385	9.2	24.5	140	28	.0	40	9.9	24	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
OCT 03...	.8	2.9	110	38	21	.1	1.3	210	183	.29	30.6	--
NOV 14...	.7	--	110	38	21	--	--	208	--	.28	25.3	--
DEC 17...	.8	--	86	27	23	--	<.1	159	--	.22	36.1	--
FEB 10...	.6	--	63	13	14	--	--	99	--	.13	38.2	--
MAR 24...	2.1	--	61	25	52	--	2.2	184	180	.25	152	.59
MAY 12...	.5	--	40	18	12	--	--	98	--	.13	238	--
JUN 30...	.8	--	75	41	12	--	--	162	--	.22	54.7	--
JUL 22...	.6	--	84	26	14	--	--	171	--	.23	77.6	--
AUG 26...	.9	--	122	36	21	--	--	237	--	.32	23.7	--

[illegible]

KANAWHA RIVER BASIN

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 03...	120	110	10	--	--	20	20	4	--	--	--	--
NOV 14...	130	100	30	--	--	10	8	2	--	--	--	--
DEC 17...	140	120	19	<10	<4	10	3	7	<10	180	<6.0	<4
FEB 10...	240	--	<10	--	--	10	8	2	--	--	--	--
MAR 24...	240	--	<3	15	<4	100	90	12	<10	170	<6.0	<4
MAY 12...	4100	4000	100	--	--	200	190	10	--	--	--	--
JUN 30...	200	180	20	--	--	20	10	6	--	--	--	--
JUL 22...	680	670	10	--	--	60	50	10	--	--	--	--
AUG 26...	150	130	20	--	--	10	0	10	--	--	--	--

KANAWHA RIVER BASIN

205

03179800 BLUESTONE LAKE NEAR HINTON, WV

LOCATION.--Lat 37°38'25", long 80°53'15", Summers County, Hydrologic Unit 05050002, at Bluestone Dam on New River, 1.0 mi (1.6 km) upstream from Greenbrier River, 2.2 mi (3.5 km) upstream from Hinton, at New River mile 64.8 (104.3 km) and Kanawha River mile 161.8 (260.3 km).

DRAINAGE AREA.--4,603 mi² (11,922 km²).

PERIOD OF RECORD.--July 1949 to current year (monthend contents only). Prior to October 1960 monthend contents published in WSP 1725.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in 1952; closure of dam was made Dec. 18, 1947, and storage began July 1949. Spillway equipped with 21 lift gates 30 ft (9.1 m) wide by 31 ft (9.4 m) high and 16 sluice gates 5.67 ft (1.728 m) wide by 10 ft (3.0 m) high. Total level-pool capacity at elevation 1,520 ft (463.3 m), flood-control pool elevation, is 631,000 acre-ft (778 hm³) of which 600,100 acre-ft (740 hm³) is controlled storage above elevation 1,406 ft (428.5 m), minimum-pool elevation, and 10,000 acre-ft (12.3 hm³) is dead storage below elevation 1,391 ft (424.0 m), stilling-basin weir. Figures given herein represent total contents. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 510,900 acre-ft (630 hm³) Apr. 6, 1960, elevation, 1,505.97 ft (459.020 m), results of holding water for cofferdam construction on Ohio River; minimum since initial filling, 16,270 acre-ft (20.1 hm³) Dec. 24, 1979, elevation, 1,396.54 ft (425.665 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 56,220 acre-ft (69.3 hm³) May 30, elevation, 1,418.01 ft (432.209 m); minimum, 23,510 acre-ft (29.0 hm³) Dec. 14, elevation, 1,401.73 ft (427.247 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	1410.46	39200	-	-
Oct. 31.....	1404.90	28930	-10270	-167
Nov. 30.....	1403.94	27230	-1700	-29
Dec. 31.....	1405.93	30810	+3580	+58
CAL YR 1980			+10480	+14
Jan. 31.....	1406.65	32140	+1330	+22
Feb. 28.....	1406.56	31970	-170	-3
Mar. 31.....	1409.57	37540	+5570	+91
Apr. 30.....	1409.90	38160	+620	+10
May 31.....	1410.65	39560	+1400	+23
June 30.....	1410.66	39570	+10	0
July 31.....	1410.40	39090	-480	-8
Aug. 31.....	1409.85	38060	-1030	-17
Sept. 30.....	1410.06	38460	+400	+7
WTR YR 1981			-740	-1

KANAWHA RIVER BASIN

03180000 NEW RIVER AT BLUESTONE DAM, WV

LOCATION.--Lat 37°38'35", long 80°53'00", Summers County, Hydrologic Unit 05050002, on right bank 0.3 mi (0.5 km) downstream from Bluestone Dam, 0.7 mi (1.1 km) upstream from Greenbrier River, 2.0 mi (3.2 km) upstream from Hinton, at New River mile 64.5 (103.8 km) and Kanawha River mile 161.5 (259.9 km).

DRAINAGE AREA.--4,604 mi² (11,924 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to September 1969, October 1975 to current year. Published as "near Hinton" 1923-46. Monthly discharge only October, November 1923, published in WSP 1305.

REVISED RECORDS.--WSP 713: 1925(M). WSP 783: Drainage area. WSP 893: 1930(M), 1935-36(M). WSP 1335: 1929, 1933.

GAGE.--Water-stage recorder. Datum of gage is 1,360.00 ft (414.528 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers datum). Dec. 1, 1923, to Nov. 19, 1934, nonrecording gage and Nov. 20, 1934, to July 1, 1947, water-stage recorder, at site 1.3 mi (2.1 km) upstream at datum 8.49 ft (2.588 m) higher. Auxiliary water-stage recorder 0.7 mi (1.1 km) downstream from present base gage.

REMARKS.--Water-discharge records good. Flow regulated since 1939 by Claytor Lake (station 03169000) and since 1949 by Bluestone Lake (station 03179800).

AVERAGE DISCHARGE.--52 years, 5,591 ft³/s (158.3 m³/s), 16.49 in/yr (419 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 232,000 ft³/s (6,570 m³/s) Aug. 15, 1940, gage height, 25.7 ft (7.83 m), from floodmarks, present site and datum, from rating curve extended above 70,000 ft³/s (2,000 m³/s) on basis of slope-area measurement of peak flow; minimum, 10 ft³/s (0.28 m³/s) Aug. 30, 1948 (estimated during construction of Bluestone Dam).

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Apr. 21 and May 23, 1901, reached a stage of 24.2 ft (7.38 m) former site and datum, discharge, 234,000 ft³/s (6,630 m³/s). Flood in 1878 probably reached a higher stage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,200 ft³/s (827 m³/s) May 30, gage height, 11.46 ft (3.493 m); minimum daily, 460 ft³/s (13.0 m³/s) Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2740	3100	1940	2000	1650	3950	7520	4120	11500	3020	2000	955
2	2700	2740	3100	1320	1650	3340	7580	3700	13800	3700	1600	1050
3	2900	460	3180	2700	4900	4300	6980	3180	13100	2670	1570	1440
4	3460	780	2820	2040	7460	4260	4620	2740	9470	2460	1540	3780
5	2530	2350	2740	1180	5000	6300	3860	3260	10200	2420	1570	4440
6	1620	2320	2820	2460	3700	6650	3500	2700	9750	2420	1600	3220
7	1620	2250	1910	2390	2740	7280	4440	2860	20100	4900	1620	2900
8	2390	2210	1650	1760	2490	5200	6000	3100	10800	6250	1820	2980
9	2530	1600	1650	1620	2350	3740	5050	2820	10000	4260	2040	2740
10	2740	1910	1790	1470	2320	5650	4260	2070	8280	2820	1600	2530
11	3140	2000	2600	1370	6800	5800	3860	4210	8420	2390	1940	2320
12	1970	1910	2390	1160	11900	5400	2530	7100	6860	2110	2110	2420
13	1470	1940	4210	1100	11300	4530	4300	8700	4800	1570	2140	2000
14	2180	2860	2660	1100	7520	3300	3700	5550	4080	2320	2390	1570
15	2040	2980	855	1620	6500	2700	4350	6100	3700	3140	2460	1340
16	1570	2320	937	1390	3060	2460	4620	4350	4900	4120	2250	1140
17	1490	1120	1080	1440	4710	2820	5150	3460	4750	3860	1670	1970
18	1520	992	2000	1300	5000	3340	7040	3580	3740	3990	1540	2390
19	1520	2560	2390	1120	4950	3300	5350	8280	4300	2560	1370	3540
20	1520	2320	2350	1160	6450	2980	5150	15000	5100	2700	1160	2740
21	2070	2860	1540	1470	8630	2530	10600	14700	2600	2670	1180	1490
22	2320	3180	1120	2000	7820	2350	11300	13600	1520	2490	1180	1470
23	3140	2940	1670	2780	9050	2320	8280	11800	3020	2490	1180	1620
24	3340	2560	2560	2670	9960	4570	8420	6500	3380	2490	992	1620
25	3180	2140	2740	1880	9750	6100	5850	6750	3220	2530	900	1600
26	2780	3020	2210	1540	7700	6000	5650	5800	3140	2180	1030	1270
27	3820	4620	1600	1910	6300	5100	4170	6300	2740	1570	1140	1140
28	4530	3380	930	2180	5500	5750	4210	13500	2390	2110	1440	1140
29	3820	3420	810	2420	---	3620	4530	22200	1760	2390	1270	1140
30	3380	2600	1470	2490	---	3140	3780	24700	2110	2420	1160	1140
31	3340	---	2250	2490	---	5200	---	18200	---	2420	1010	---
TOTAL	79370	71442	63972	55590	167160	133980	166650	240930	193530	89440	48472	61095
MEAN	2560	2381	2064	1793	5970	4322	5555	7772	6451	2885	1564	2037
MAX	4530	4620	4210	2780	11900	7280	11300	24700	20100	6250	2460	4440
MIN	1470	460	810	1100	1650	2320	2530	2070	1520	1570	900	955

CAL YR 1980 TOTAL 2162934 MEAN 5910 MAX 34300 MIN 460 MEAN# 5927 CFSM# 1.29 IN# 17.53
WTR YR 1981 TOTAL 1371631 MEAN 3758 MAX 24700 MIN 460 MEAN# 3754 CFSM# 0.82 IN# 11.07

* Adjusted for change in contents in Claytor (Virginia) and Bluestone Lakes.

KANAWHA RIVER BASIN

207

03180000 NEW RIVER AT BLUESTONE DAM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: May 1953 to September 1967, October 1969 to current year.

INSTRUMENTATION.--Temperature recorder since May 24, 1953.

REMARKS.--Interruptions in water-temperature record due to instrument malfunctions.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 30.0°C July 17, 1977, July 21, 1980; minimum, 0.0°C on several days during winter months most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 29.0°C July 12, 13; minimum, 2.0°C several days in January and February.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	21.0	12.0	11.5	---	---	3.0	3.0	4.5	4.0	6.0	6.0
2	21.0	21.0	11.5	11.0	---	---	4.0	3.0	4.0	4.0	6.0	6.0
3	21.0	20.0	14.0	9.0	---	---	3.5	3.0	4.0	4.0	6.0	6.0
4	20.0	20.0	13.0	11.0	6.0	6.0	4.0	3.5	4.0	3.0	6.0	6.0
5	20.0	20.0	11.5	11.0	6.5	6.0	4.5	3.5	3.0	2.5	6.0	6.0
6	20.0	19.0	11.0	11.0	6.5	6.5	4.0	4.0	2.5	2.0	6.0	6.0
7	19.5	19.0	11.0	11.0	7.0	6.5	4.0	3.0	2.0	2.0	6.0	6.0
8	18.5	18.0	11.0	11.0	7.0	7.0	3.0	3.0	2.0	2.0	6.0	5.5
9	18.0	18.0	11.0	11.0	7.0	7.0	3.0	3.0	3.0	2.0	5.5	5.5
10	18.0	17.5	11.0	11.0	---	---	3.0	2.5	2.5	2.5	5.5	5.5
11	18.0	18.0	11.0	11.0	---	---	2.5	2.5	2.5	2.5	5.5	5.5
12	18.0	18.0	11.0	10.0	---	---	2.5	2.5	3.0	2.5	6.0	5.5
13	18.0	16.5	11.0	11.0	---	---	3.0	2.5	3.0	2.5	6.0	6.0
14	16.5	16.0	11.0	10.5	7.5	6.5	3.0	2.5	2.5	2.0	6.5	6.0
15	16.5	15.5	10.5	10.5	6.5	6.5	2.5	2.5	3.0	2.5	7.0	6.0
16	16.5	15.5	10.5	10.0	6.5	6.5	2.5	2.0	4.0	3.0	7.0	6.5
17	---	---	10.0	10.0	6.5	6.0	2.0	2.0	4.0	4.0	7.0	6.5
18	---	---	10.0	9.5	6.0	6.0	3.0	2.0	5.0	4.0	7.0	7.0
19	---	---	9.5	9.5	6.0	6.0	3.0	2.5	6.0	5.0	7.0	7.0
20	---	---	10.0	9.0	6.0	5.5	2.5	2.5	6.5	6.0	7.0	7.0
21	15.5	15.5	9.0	8.0	5.5	5.0	2.5	2.5	6.5	6.5	7.0	6.5
22	15.5	15.5	8.0	8.0	5.0	5.0	3.0	2.5	6.5	6.5	5.5	6.0
23	15.5	15.5	8.0	7.5	5.0	5.0	3.0	3.0	6.5	6.5	6.0	6.0
24	15.5	15.5	7.5	7.5	5.0	4.0	3.0	3.0	6.5	6.5	6.0	5.5
25	15.5	15.5	---	---	4.0	3.5	4.0	3.0	6.5	6.0	5.5	5.5
26	15.5	14.5	---	---	3.5	3.5	4.0	3.5	6.0	6.0	6.5	5.5
27	14.5	13.5	---	---	3.5	3.5	4.0	4.0	6.0	6.0	7.0	6.5
28	13.5	12.5	---	---	3.5	3.0	4.0	4.0	6.0	6.0	8.0	7.0
29	12.5	11.5	---	---	3.0	3.0	4.0	4.0	---	---	10.0	8.0
30	11.5	11.5	---	---	3.0	3.0	4.0	4.0	---	---	10.0	9.5
31	12.0	11.5	---	---	3.0	3.0	4.5	4.0	---	---	10.0	9.0
MONTH	21.0	11.5	14.0	7.5	7.5	3.0	4.5	2.0	6.5	2.0	10.0	5.5

KANAWHA RIVER BASIN

03180000 NEW RIVER AT BLUESTONE DAM, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

KANAWHA RIVER BASIN

209

03180500 GREENBRIER RIVER AT DURBIN, WV

LOCATION.--Lat 38°32'35", long 79°50'00", Pocahontas County, Hydrologic Unit 05050003, on left bank at Durbin, 500 ft (152 m) downstream from confluence of East and West Forks, and at mile 150.1 (241.5 km).

DRAINAGE AREA.--134 mi² (347 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,699.71 ft (822.872 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for December, January, February, March, and April, which are poor.

AVERAGE DISCHARGE.--38 years, 257 ft³/s (7.278 m³/s), 26.05 in/yr (662 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s (346 m³/s) Mar. 7, 1967, gage height, 9.15 ft (2.789 m), from rating curve extended above 5,000 ft³/s (140 m³/s); maximum gage height, 9.20 ft (2.804 m) Feb. 2, 1956 (ice jam); no flow part of each day Oct. 2, 3, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,800 ft³/s (79 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 11	1400	ice jam	*7.90 2.408	June 6	1200	*5070 144	6.26 1.908

Minimum discharge, 8.4 ft³/s (0.24 m³/s) Sept. 30, gage height, 0.67 ft (0.204 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	24	176	88	110	340	600	227	382	214	46	15
2	14	21	295	88	400	320	500	275	418	289	38	24
3	14	19	602	50	720	270	450	266	403	246	38	31
4	17	20	463	35	450	269	400	241	764	210	59	88
5	16	28	350	30	250	299	360	213	1260	312	37	83
6	14	27	303	38	200	255	330	193	3060	501	66	38
7	12	22	271	48	170	230	310	175	1830	400	133	34
8	11	21	249	44	160	210	320	144	856	290	85	31
9	11	26	264	38	150	190	340	128	566	216	63	62
10	11	66	353	36	200	180	333	120	1530	168	47	33
11	11	46	318	40	350	170	338	211	1390	142	39	22
12	13	36	274	43	1200	160	319	291	758	110	40	18
13	12	31	233	49	1100	155	291	278	461	92	36	15
14	9.9	29	190	45	600	150	307	253	346	85	29	14
15	9.5	28	163	40	450	150	468	321	237	70	26	16
16	9.5	28	151	36	350	155	431	317	181	58	43	71
17	9.5	38	128	33	400	160	461	298	147	54	36	48
18	10	244	111	30	500	155	567	308	122	45	24	28
19	11	158	115	29	700	145	557	1020	223	39	19	22
20	12	110	61	35	1300	135	615	1680	1060	43	17	20
21	11	101	50	43	1600	125	562	1040	437	46	15	17
22	10	95	42	46	1300	120	468	594	317	38	15	15
23	10	79	50	48	1300	150	369	390	232	31	14	14
24	9.9	691	66	50	1700	200	317	279	172	71	12	13
25	42	806	45	54	1000	379	273	213	152	88	12	12
26	75	447	50	58	500	485	233	179	202	50	11	12
27	30	324	58	66	350	800	213	160	136	61	11	11
28	26	271	78	90	350	1300	194	771	111	56	10	10
29	63	228	80	100	---	900	185	762	93	130	10	9.4
30	43	189	82	90	---	1000	190	509	98	93	9.9	8.5
31	30	---	86	84	---	840	---	482	---	62	9.7	---
TOTAL	591.3	4253	5757	1604	17860	10397	11301	12338	17944	4310	1050.6	834.9
MEAN	19.1	142	186	51.7	638	335	377	398	598	139	33.9	27.8
MAX	75	806	602	100	1700	1300	615	1680	3060	501	133	88
MIN	9.5	19	42	29	110	120	185	120	93	31	9.7	8.5
CFSM	.14	1.06	1.39	.39	4.76	2.50	2.81	2.97	4.46	1.04	.25	.21
IN.	.16	1.18	1.60	.45	4.96	2.89	3.14	3.43	4.98	1.20	.29	.23

CAL YR 1980	TOTAL	91769.3	MEAN	251	MAX	2040	MIN	9.5	CFSM	1.87	IN	25.48
WTR YR 1981	TOTAL	88240.8	MEAN	242	MAX	3060	MIN	8.5	CFSM	1.81	IN	24.50

KANAWHA RIVER BASIN

03180500 GREENBRIER RIVER AT DURBIN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 15...	1450	10	500	7.2	14.0	8.4	53	--	--	18
DEC 11...	0915	353	51	7.2	2.5	12.1	14	2	.0	4.4
JAN 15...	1410	40	212	7.1	.0	12.0	21	8	.0	6.5
MAR 04...	1300	241	105	6.9	1.0	12.3	14	7	<.1	4.4
APR 09...	1315	280	81	7.0	9.0	10.0	16	9	.0	4.9
JUN 09...	1230	524	52	6.9	14.5	--	12	6	<.1	3.3
JUL 22...	1800	46	208	7.0	26.5	--	30	--	--	10
AUG 18...	1230	24	341	7.2	16.5	7.9	39	21	.0	13

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 15...	1.9	66	72	4.0	2.0	38	26	110	.0	3.0
DEC 11...	.7	7.6	--	.9	--	15	7.8	11	--	4.6
JAN 15...	1.1	25	--	2.4	--	16	12	38	--	--
MAR 04...	.8	11	--	1.3	--	8	9.1	16	--	4.3
APR 09...	.8	7.7	--	.9	--	9	7.1	12	--	3.8
JUN 09...	.8	3.3	--	.4	--	7	4.7	5.1	--	--
JUL 22...	1.3	24	--	1.9	--	11	15	37	--	--
AUG 18...	1.5	46	--	3.3	--	18	22	68	--	3.3

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NC3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
OCT 15...	266	--	.36	7.5	--	--	--	--	--
DEC 11...	50	46	.07	47.7	.51	2.3	.000	.00	.51
JAN 15...	98	--	.13	10.6	--	--	--	--	--
MAR 04...	58	53	.08	37.7	--	--	<.010	--	.55
APR 09...	48	43	.07	36.3	--	--	<.010	--	.47
JUN 09...	31	--	.04	43.9	--	--	--	--	--
JUL 22...	121	--	.16	15.0	--	--	--	--	--
AUG 18...	188	169	.26	12.2	.49	2.2	.070	.23	.56

KANAWHA RIVER BASIN

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03180500 GREENBRIER RIVER AT DURBIN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
OCT 15...	--	--	--	--	--	--	--	--	640	170
DEC 11...	.340	.000	.00	30	<0	<1	<3	<10	190	110
JAN 15...	--	--	--	--	--	--	--	--	240	160
MAR 04...	.430	<.010	--	30	1	1	3	10	180	120
APR 09...	.230	<.010	--	40	<1	<1	<3	<10	240	180
JUN 09...	--	--	--	--	--	--	--	--	410	340
JUL 22...	--	--	--	--	--	--	--	--	300	140
AUG 18...	2.70	.060	.18	40	<1	2	4	<10	470	260

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 15...	470	--	--	100	10	90	--	--	--	--
DEC 11...	80	<10	<4	20	0	21	<10	11	<6.0	9
JAN 15...	80	--	--	40	0	40	--	--	--	--
MAR 04...	57	10	4	30	10	20	10	16	6.0	4
APR 09...	57	<10	<4	30	10	20	<10	16	<6.0	<4
JUN 09...	70	--	--	20	0	20	--	--	--	--
JUL 22...	160	--	--	30	0	30	--	--	--	--
AUG 18...	210	<10	<4	40	0	44	<10	38	<6.0	<4

KANAWHA RIVER BASIN

03182000 KNAPP CREEK AT MARLINTON, WV

LOCATION.--Lat 38°12'40", long 80°04'30", Pocahontas County, Hydrologic Unit 05050003, at city water plant, at Marlinton, 1.0 mi (1.6 km) upstream from mouth, and 2.0 mi (3.2 km) downstream from discontinued gaging station.

DRAINAGE AREA.--108 mi² (280 km²) at discontinued gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1946 to current year.

COOPERATION.--Records were furnished by Marlinton City Water Plant.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 28.0°C July 24, 1952, June 2, 1959; minimum daily, -1.0°C several days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 24.0 July 11-14, 25, 27; minimum daily, -1.0°C Jan. 12, 13.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.5	6.5	1.0	1.5	.0	1.5	7.0	11.0	13.5	20.0	20.5	20.5
2	13.0	5.5	1.5	.5	.5	1.0	8.0	11.5	14.0	20.5	20.5	21.0
3	12.0	5.0	.5	.0	.0	1.0	8.5	12.0	14.5	21.0	21.0	20.0
4	11.0	4.5	.0	.0	.0	1.5	9.0	13.0	14.5	21.0	21.0	18.5
5	10.0	5.5	1.0	.0	.5	1.5	9.0	14.5	15.0	21.0	22.0	18.0
6	9.0	4.5	1.5	.0	.5	1.0	8.0	14.5	15.0	21.0	21.0	20.0
7	9.0	5.5	1.5	.5	1.0	1.0	6.5	13.5	15.5	22.0	20.5	19.5
8	9.5	5.5	2.0	.5	1.0	.5	6.5	13.0	16.0	22.0	20.5	19.0
9	11.0	5.5	2.0	.0	.0	1.0	7.0	14.0	16.5	23.0	20.5	18.5
10	12.0	4.5	1.5	.0	.5	1.0	7.0	14.0	16.5	23.0	21.0	18.5
11	12.0	3.5	1.0	.0	1.5	1.5	8.0	15.0	15.0	24.0	21.0	18.0
12	10.0	1.5	1.5	-1.0	.0	1.5	8.0	14.0	15.0	24.0	22.0	18.5
13	9.0	2.0	2.0	-1.0	.0	2.0	7.0	14.5	15.5	24.0	22.0	18.0
14	8.5	1.5	.5	.0	.5	1.0	8.5	15.5	18.0	24.0	21.0	18.5
15	9.0	2.0	.0	.5	1.5	1.0	8.0	15.0	20.0	23.5	21.0	19.0
16	9.5	4.5	1.0	.5	2.0	.5	9.0	14.5	20.0	23.0	21.0	18.0
17	10.5	4.0	.5	.0	1.5	.5	9.5	14.5	21.0	21.5	20.0	18.0
18	11.5	3.5	1.0	.0	1.5	1.0	10.0	13.5	21.0	22.0	19.0	16.5
19	13.0	2.0	1.5	.0	2.0	1.0	11.0	13.0	20.5	23.0	18.5	15.5
20	11.0	.0	.0	.5	1.5	.5	10.5	13.5	21.0	23.5	18.0	14.5
21	11.0	.0	.0	.5	1.5	1.0	8.5	11.0	21.0	23.5	18.0	14.5
22	10.0	.5	.0	.5	1.0	.5	8.0	11.0	21.0	23.0	18.5	15.0
23	9.0	1.0	.5	.5	1.5	1.0	7.0	12.0	20.5	23.5	18.5	14.5
24	8.0	1.5	.5	1.0	1.5	2.0	6.5	13.5	21.0	23.5	19.0	14.5
25	8.5	1.5	.0	.0	1.0	2.0	6.5	15.0	20.5	24.0	19.0	15.5
26	5.5	1.0	.0	1.0	.5	2.0	7.0	15.5	20.5	23.0	19.0	15.5
27	4.5	1.5	.5	1.0	.5	4.0	8.5	14.5	20.0	24.0	20.0	15.0
28	5.0	1.0	1.0	1.0	1.5	4.5	10.0	14.0	19.0	23.5	20.5	14.5
29	5.5	.5	1.5	.5	---	5.5	11.0	14.5	18.5	23.0	20.5	13.5
30	7.0	.5	1.5	.0	---	7.0	12.0	13.0	19.5	21.5	20.0	14.5
31	6.5	---	2.0	.0	---	7.0	---	13.0	---	21.0	20.5	---
MEAN	9.5	3.0	1.0	.5	1.0	2.0	8.5	13.5	18.0	22.5	20.0	17.0
WTR YR 1981	MEAN	9.5		MAX	24.0	MIN	-1.0					

KANAWHA RIVER BASIN

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03182500 GREENBRIER RIVER AT BUCKEYE, WV

LOCATION.--Lat 38°11'15", long 80°07'50", Pocahontas County, Hydrologic Unit 05050003, on right bank at upstream side of highway bridge at Buckeye, 1,000 ft (305 m) upstream from Swago Creek, 3.5 mi (5.6 km) downstream from Knapp Creek, and at mile 103.1 (165.9 km). Records include flow of Swago Creek.

DRAINAGE AREA.--540 mi² (1,399 km²), includes that of Swago Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1929 to current year.

REVISED RECORDS.--WSP 758: 1933. WSP 953: 1930-32, 1934-35(M), 1936, 1937(M), 1938-39, 1940(M). WSP 1275: 1936.

GAGE.--Water-stage recorder. Datum of gage is 2,085.89 ft (635.779 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 27, 1939, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for December, January, and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 872 ft³/s (24.70 m³/s), 21.93 in/yr (557 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,500 ft³/s (1,180 m³/s) Feb. 5, 1932, gage height, 17.5 ft (5.33 m), from floodmarks, from rating curve extended above 25,000 ft³/s (710 m³/s); minimum, 3.8 ft³/s (0.11 m³/s) Aug. 13, 1930, gage height, 1.19 ft (0.363 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 11,000 ft³/s (310 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 11	1900	ice jam	10.36 3.158	May 28	2300	*12800 362	10.49 3.197

Minimum discharge, 35 ft³/s (0.99 m³/s) Sept. 1; gage height, 1.68 ft (0.512 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	77	400	160	190	997	1810	569	1660	434	203	36
2	51	66	415	160	300	980	1580	589	1930	728	158	45
3	48	57	818	100	1600	878	1290	573	2760	630	142	71
4	55	59	912	68	1300	743	1090	537	2550	552	148	379
5	48	59	744	56	700	757	998	501	2910	498	151	575
6	48	59	600	74	600	885	1010	472	4410	1070	144	287
7	46	59	536	90	540	805	882	466	5680	1090	201	163
8	44	64	494	80	500	692	795	406	2830	761	292	229
9	42	59	471	72	460	629	729	348	1690	553	204	159
10	38	57	623	66	440	544	796	313	4760	435	156	175
11	36	57	679	74	600	516	763	514	4600	352	126	132
12	35	90	585	80	1500	478	761	1330	2510	291	114	98
13	35	77	507	90	2800	445	725	1130	1520	237	107	80
14	33	68	440	84	2600	433	651	929	1100	213	100	70
15	32	66	361	72	1900	423	850	1010	818	189	90	70
16	35	66	330	64	1300	415	920	1230	602	168	82	95
17	33	75	301	60	1000	435	1150	1050	480	151	74	124
18	35	171	262	56	1400	439	2220	926	398	134	82	147
19	36	442	237	54	1900	416	1740	4300	341	121	76	105
20	38	269	252	66	2790	385	1660	7520	1150	204	65	84
21	38	182	110	78	3770	359	1750	4170	1060	258	58	73
22	38	154	78	94	2840	326	1460	2260	685	177	53	66
23	40	143	100	100	2890	321	1190	1430	555	138	49	61
24	42	680	120	105	4500	445	1140	1040	427	115	46	53
25	64	2370	82	110	2590	776	1020	794	332	111	45	48
26	90	1120	90	120	1610	968	885	633	317	196	42	46
27	143	731	100	130	1140	1370	783	555	352	148	40	42
28	110	599	140	150	933	2940	696	6440	252	166	40	42
29	80	539	150	210	---	2040	625	7500	210	509	38	40
30	70	469	150	220	---	2030	590	2970	208	426	37	38
31	96	---	160	200	---	2400	---	2150	---	285	36	---
TOTAL	1636	8984	11247	3143	44693	26270	32559	54655	49097	11340	3199	3633
MEAN	52.8	299	363	101	1596	847	1085	1763	1637	366	103	121
MAX	143	2370	912	220	4500	2940	2220	7520	5680	1090	292	575
MIN	32	57	78	54	190	321	590	313	208	111	36	36
CFSM	.10	.55	.67	.19	2.96	1.57	2.01	3.27	3.03	.68	.19	.22
IN.	.11	.62	.77	.22	3.08	1.81	2.24	3.77	3.38	.78	.22	.25
CAL YR 1980	TOTAL	284741	MEAN 778	MAX 9200	MIN 32	CFSM 1.44	IN 19.62					
WTR YR 1981	TOTAL	250456	MEAN 686	MAX 7520	MIN 32	CFSM 1.27	IN 17.25					

KANAWHA RIVER BASIN
03182500 GREENBRIER RIVER AT BUCKEYE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT 16...	1245	34	250	8.0	12.5	9.0	253	71	77	32
DEC 03...	1230	1030	85	7.4	2.5	11.6	--	--	29	11
JAN 14...	1700	83	180	7.4	.0	12.4	--	--	47	19
MAR 04...	1800	708	75	7.3	2.0	11.5	--	--	19	8
APR 09...	1700	308	75	7.9	12.0	10.1	--	--	24	11
MAY 27...	1220	554	68	7.7	18.5	--	--	--	24	8
JUL 22...	1500	164	110	8.3	27.0	--	--	--	34	--
AUG 18...	1530	95	178	8.5	24.0	9.1	--	--	52	17

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 16...	.0	25	3.5	16	31	.8	1.5	55	23	27
DEC 03...	.0	9.5	1.2	4.0	--	.3	--	22	8.3	5.9
JAN 14...	.0	15	2.3	13	--	.8	--	34	15	20
MAR 04...	.0	5.7	1.1	3.2	--	.3	--	14	6.9	5.2
APR 09...	.0	7.5	1.2	3.4	--	.3	--	16	7.1	4.5
MAY 27...	.0	7.6	1.2	2.1	--	.2	--	20	5.3	3.0
JUL 22...	--	11	1.6	5.5	--	.4	--	27	10	8.8
AUG 18...	.0	17	2.4	13	--	.8	--	35	13	18

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)
OCT 16...	.0	3.1	130	126	.18	11.9	--	--	--	--
DEC 03...	--	4.4	50	47	.07	139	.62	2.7	.000	.00
JAN 14...	--	--	96	--	.13	21.5	--	--	--	--
MAR 04...	--	4.0	36	36	.05	68.8	--	--	<.010	--
APR 09...	--	3.5	40	37	.05	33.3	--	--	<.010	--
MAY 27...	--	--	38	--	.05	56.8	--	--	--	--
JUL 22...	--	--	69	--	.09	30.6	--	--	--	--
AUG 18...	--	3.2	106	86	.14	27.2	.40	1.8	.010	.03

KANAWHA RIVER BASIN

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03182500 GREENBRIER RIVER AT BUCKEYE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
OCT 16...	--	--	--	--	--	--	--	--	--	170	110
DEC 03...	.62	.030	.000	.00	40	<0	<1	<3	<10	200	160
JAN 14...	--	--	--	--	--	--	--	--	--	120	100
MAR 04...	.55	.080	<.010	--	20	1	1	3	10	110	80
APR 09...	.49	.060	<.010	--	40	<1	<1	<3	<10	120	90
MAY 27...	--	--	--	--	--	--	--	--	--	300	250
JUL 22...	--	--	--	--	--	--	--	--	--	280	240
AUG 18...	.41	.050	<.010	--	40	<1	<1	<3	<10	540	500

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 16...	60	--	--	20	10	10	--	--	--	--
DEC 03...	39	<10	<4	0	0	3	<10	43	<6.0	<4
JAN 14...	20	--	--	10	7	3	--	--	--	--
MAR 04...	29	10	4	10	6	4	10	29	6.0	4
APR 09...	27	<10	<4	30	30	5	<10	34	<6.0	<4
MAY 27...	50	--	--	10	4	6	--	--	--	--
JUL 22...	40	--	--	10	0	10	--	--	--	--
AUG 18...	43	<10	<4	20	9	11	<10	83	<6.0	<4

KANAWHA RIVER BASIN

03182700 ANTHONY CREEK NEAR ANTHONY, WV

LOCATION.--Lat 37°54'30", long 80°17'30", Greenbrier County, Hydrologic Unit 05050003, on right bank 0.3 mi (0.5 km) downstream from Big Draft, 1.7 mi (2.7 km) downstream from Rocky Run, 2.2 mi (3.5 km) northeast of Anthony, and at mile 3.2 (5.1 km).

DRAINAGE AREA.-- 144 mi² (373 km²).

PERIOD OF RECORD.--Water years 1949, 1951-53, 1957, 1960, 1966, 1968-71 (occasional low-flow discharge measurements only), October 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,850 ft (564 m), from topographic map.

REMARKS.--Records good except those for October, December, January, and February, which are poor.

AVERAGE DISCHARGE.--10 years, 207 ft³/s (5.862 m³/s), 19.52 in/yr (496 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) Dec. 26, 1973, gage height, 19.3 ft (5.88 m), from floodmarks, from rating curve extended above 1,100 ft³/s (31 m³/s); minimum daily, 6.2 ft³/s (0.18 m³/s) Nov. 7, 1978; minimum gage height, 6.16 ft (1.878 m) July 17-19, 23-25, Aug. 8, 9, 10, 12, 13, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,300 ft³/s (235 m³/s) May 28, gage height, 14.95 ft (4.557 m), no other peak above base of 3,200 ft³/s (91 m³/s); minimum, 9.3 ft³/s (0.26 m³/s) Aug. 29 to Sept. 3, gage height, 6.17 ft (1.881 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	12	43	24	23	136	204	118	424	66	12	9.3
2	15	12	40	24	131	122	193	103	864	44	11	9.3
3	14	12	45	20	166	111	170	89	685	39	11	9.4
4	14	13	45	14	125	99	152	80	508	37	11	12
5	13	14	44	10	86	217	140	74	401	40	11	12
6	13	14	44	12	68	334	128	71	313	83	11	12
7	13	13	39	15	52	256	108	74	373	89	11	26
8	14	13	37	13	45	191	96	67	271	63	12	20
9	13	13	35	12	40	152	90	60	205	48	13	15
10	13	13	46	11	35	129	89	56	162	39	12	12
11	12	13	51	12	186	115	82	99	132	34	11	12
12	12	13	50	14	225	102	77	180	103	29	11	11
13	11	12	45	15	181	90	105	165	87	25	11	11
14	11	12	40	16	130	83	119	140	82	25	11	11
15	11	12	37	14	97	71	125	163	69	23	10	11
16	11	13	36	12	82	70	126	192	59	20	10	14
17	12	15	33	11	93	64	303	179	51	19	10	15
18	11	44	29	10	129	63	552	159	45	18	10	14
19	11	47	28	9.6	175	62	357	998	40	16	10	12
20	11	35	26	11	385	56	333	1510	47	16	10	12
21	11	29	15	13	403	54	304	699	41	16	10	11
22	11	25	13	15	279	48	246	404	36	15	9.7	11
23	11	23	16	18	354	48	213	276	34	13	9.7	11
24	11	182	20	19	564	58	244	208	30	13	9.6	11
25	19	192	14	19	332	86	224	161	26	13	9.6	10
26	19	97	16	20	233	111	192	131	25	13	9.6	10
27	17	69	20	21	176	120	168	125	23	13	9.4	10
28	16	60	19	24	146	124	146	4430	21	13	9.4	9.9
29	15	53	19	27	---	121	132	3640	19	13	9.4	9.6
30	14	48	22	26	---	135	123	846	29	13	9.3	9.6
31	13	---	24	30	---	199	---	518	---	12	9.3	---
TOTAL	407	1123	991	511.6	4941	3627	5541	16015	5205	920	324.0	363.1
MEAN	13.1	37.4	32.0	16.5	176	117	185	517	174	29.7	10.5	12.1
MAX	19	192	51	30	564	334	552	4430	864	89	13	26
MIN	11	12	13	9.6	23	48	77	56	19	12	9.3	9.3
CFSM	.09	.26	.22	.12	1.22	.81	1.29	3.59	1.21	.21	.07	.08
IN.	.11	.29	.26	.13	1.28	.94	1.43	4.14	1.34	.24	.08	.09
CAL YR 1980	TOTAL	64198.0	MEAN	175	MAX	2930	MIN	11	CFSM	1.22	IN	16.58
WTR YR 1981	TOTAL	39968.7	MEAN	110	MAX	4430	MIN	9.3	CFSM	.76	IN	10.33

KANAWHA RIVER BASIN

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03183500 GREENBRIER RIVER AT ALDERSON, WV

LOCATION.--Lat 37°43'30", long 80°38'30", Monroe County, Hydrologic Unit 05050003, on left bank 400 ft (122 m) upstream from highway bridge at Alderson, 0.5 mi (0.8 km) upstream from Muddy Creek, and at mile 28.4 (45.7 km).

DRAINAGE AREA.--1,357 mi² (3,515 km²).

PERIOD OF RECORD.--July 1895 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 536: 1907-9. WSP 783: Drainage area. WSP 803: 1918(M). WSP 953: 1930-41. WSP 1275: 1897, 1905, 1910, 1914(M), 1915-16, 1917(M), 1919-20(M), 1924-25(M), 1927(M), 1929, 1949.

GAGE.--Water-stage recorder. Datum of gage is 1,529.42 ft (466.167 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1929, nonrecording gage at bridge 400 ft (122 m) downstream at same datum.

REMARKS.--Records good except those for December, January, and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--86 years, 1,991 ft³/s (56.39 m³/s), 19.92 in/yr (506 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,500 ft³/s (2,190 m³/s) Mar. 14, 1918, gage height, 22.0 ft (6.71 m), from floodmarks, from rating curve extended above 37,000 ft³/s (1,000 m³/s); minimum, 24 ft³/s (0.68 m³/s) Aug. 12, Oct. 1, 2, 1930; minimum gage height, 1.63 ft (0.497 m) Sept. 20, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,500 ft³/s (835 m³/s) May 29, gage height, 12.80 ft (3.901 m), no other peak above base of 19,000 ft³/s (540 m³/s); minimum, 83 ft³/s (2.35 m³/s) Aug. 31, Sept. 1, gage height, 1.84 ft (0.561 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	180	878	379	439	1830	3500	1220	4300	683	524	85
2	174	162	769	373	620	1890	2980	1130	5320	819	380	90
3	174	168	739	274	2400	1790	2630	1050	6610	1200	301	92
4	168	168	1100	170	2000	1590	2230	1000	5880	1160	259	417
5	159	165	1410	130	1300	2130	1940	935	5880	1040	225	4940
6	153	153	1210	170	1000	3160	1840	875	5660	1340	233	2590
7	150	144	1010	220	840	2860	1760	861	10400	2510	262	1930
8	150	150	884	190	760	2210	1520	823	7190	2170	306	925
9	156	144	807	170	720	1780	1370	743	4260	1510	325	578
10	150	144	815	150	702	1500	1310	661	2970	1100	408	528
11	147	141	1090	170	951	1300	1360	1540	6490	842	310	384
12	141	141	1220	190	4780	1160	1300	3840	4540	675	261	331
13	135	135	1060	210	3990	1060	1430	3170	2960	571	232	297
14	129	129	928	220	2760	966	1610	2360	2220	500	200	239
15	129	141	791	180	2070	892	1720	2100	1770	440	186	211
16	126	171	685	150	1710	856	1890	2600	1400	384	185	247
17	126	177	593	140	1690	827	2300	2590	1130	352	182	247
18	126	310	550	130	2340	851	5530	2150	938	313	189	231
19	126	443	480	120	3340	845	4680	4080	796	284	161	218
20	129	586	422	140	4890	831	4050	16800	703	264	143	237
21	117	673	210	170	6340	760	4000	12200	1310	251	140	223
22	105	482	180	210	6250	710	3420	6220	1560	264	130	189
23	100	380	226	240	4510	706	2880	3830	1110	362	124	168
24	97	655	295	250	7290	708	2840	2720	922	285	113	154
25	115	3480	190	263	5980	1030	2790	2060	754	309	106	142
26	180	3270	210	283	3810	1690	2340	1600	642	298	101	134
27	196	1940	240	309	2730	2020	1930	1340	546	260	96	128
28	188	1380	332	384	2110	3030	1700	3700	529	278	93	121
29	192	1130	339	498	---	3770	1470	23600	497	299	91	115
30	245	1010	345	531	---	3020	1320	9870	420	384	88	111
31	208	---	368	473	---	3540	---	5260	---	702	86	---
TOTAL	4676	18352	20376	7487	78322	51312	71640	122928	89707	21849	6440	16302
MEAN	151	612	657	242	2797	1655	2388	3965	2990	705	208	543
MAX	245	3480	1410	531	7290	3770	5530	23600	10400	2510	524	4940
MIN	97	129	180	120	439	706	1300	661	420	251	86	85
CFSM	.11	.45	.48	.18	2.06	1.22	1.76	2.92	2.20	.52	.15	.40
IN.	.13	.50	.56	.21	2.15	1.41	1.96	3.37	2.46	.60	.18	.45
CAL YR 1980	TOTAL	664385	MEAN	1815	MAX	24800	MIN	97	CFSM	1.34	IN	18.21
WTR YR 1981	TOTAL	509391	MEAN	1396	MAX	23600	MIN	85	CFSM	1.03	IN	13.96

KANAWHA RIVER BASIN

03184000 GREENBRIER RIVER AT HILLDALE, WV

LOCATION.--Lat 37°38'25", long 80°48'20", Summers County, Hydrologic Unit 05050003, on left bank 100 ft (30 m) downstream from State Highway 3 bridge at Hilldale, 0.1 mi (0.2 km) upstream from Howard Creek, 0.9 mi (1.4 km) upstream from Powley Creek, 5.0 mi (8.0 km) southeast of Hinton, and at mile 5.6 (9.0 km). Records include flow of Howard Creek.

DRAINAGE AREA.--1,625 mi² (4,209 km²), includes that of Howard Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to current year.

REVISED RECORDS.--WSP 1435: 1955.

GAGE.--Water-stage recorder. Datum of gage is 1,388.66 ft (423.264 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water-discharge records good except those for December, January, and February, which are poor.

AVERAGE DISCHARGE.--45 years, 2,245 ft³/s (63.58 m³/s), 18.76 in/yr (477 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,100 ft³/s (1,650 m³/s) Dec. 27, 1973, gage height, 23.13 ft (7.050 m), from floodmark; minimum discharge, 39 ft³/s (1.10 m³/s) Sept. 18-20, 1946, Sept. 16, 1964; minimum gage height, 0.32 ft (0.098 m) Sept. 16, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.85 ft (6.660 m) from data furnished by Corps of Engineers, discharge, 60,800 ft³/s (1,720 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,200 ft³/s (855 m³/s) May 29, gage height, 15.04 ft (4.584 m), no other peak above base of 24,000 ft³/s (680 m³/s); minimum, 88 ft³/s (2.49 m³/s) Sept. 1, gage height, 0.57 ft (0.174 m).

CORRECTIONS.--The average discharge for water years 1937-80 is 2,258 ft³/s (63.95 m³/s); the 44-year figure published last year was not the average.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	222	931	431	595	2320	4420	1530	5660	558	600	90
2	205	191	811	426	701	2250	3770	1430	6890	788	458	104
3	190	173	743	340	2300	2270	3320	1290	8640	951	356	106
4	187	183	827	250	2500	1980	2810	1210	7670	1190	297	245
5	177	184	1410	190	1700	2580	2460	1120	8150	1010	263	4090
6	168	175	1270	220	1300	4300	2250	1050	7800	1330	247	3320
7	160	167	1070	260	1100	4040	2200	1010	13300	2130	258	2610
8	157	159	913	230	1000	3080	1920	985	10100	2320	297	1450
9	160	163	836	210	900	2390	1750	899	5970	1620	317	923
10	165	166	807	180	834	1950	1640	798	4080	1180	382	724
11	160	161	977	200	894	1680	1650	2930	6480	924	369	624
12	155	155	1260	220	3990	1450	1630	5780	5780	754	311	428
13	149	155	1130	245	5340	1330	1810	4870	3770	632	267	357
14	140	149	973	269	3560	1190	2130	3400	2720	572	238	305
15	137	145	845	220	2860	1070	2230	3100	2130	505	213	269
16	135	155	736	190	2340	1010	2440	3500	1660	454	214	275
17	132	199	651	170	2100	994	2820	3530	1320	399	201	300
18	135	269	586	160	2670	978	6850	2910	1070	362	201	285
19	137	440	540	150	3930	1000	6660	4520	907	328	196	261
20	136	527	471	190	5670	996	5470	18700	792	309	170	246
21	137	704	310	230	7470	920	5620	15500	834	283	150	267
22	130	564	250	270	7800	875	4640	8370	1850	269	140	235
23	113	436	210	301	5970	854	3770	5340	1240	329	142	206
24	105	590	266	329	7970	919	3420	3750	984	347	130	181
25	127	2790	348	350	7990	1530	3460	2820	838	319	118	165
26	148	4290	222	360	5200	2080	3010	2190	728	381	109	153
27	207	2370	267	396	3670	2560	2570	1840	620	340	104	145
28	230	1580	338	484	2780	3020	2200	2430	548	286	99	139
29	209	1230	374	583	---	4820	1890	23300	560	340	94	130
30	224	1060	392	652	---	3820	1680	13400	483	313	91	123
31	261	---	407	652	---	4010	---	7110	---	585	90	---
TOTAL	5109	19752	21171	9358	95134	64266	92490	150612	113574	22108	7122	18756
MEAN	165	658	683	302	3398	2073	3083	4858	3786	713	230	625
MAX	261	4290	1410	652	7990	4820	6850	23300	13300	2320	600	4090
MIN	105	145	210	150	595	854	1630	798	483	269	90	90
CFSM	.10	.41	.42	.19	2.09	1.28	1.90	2.99	2.33	.44	.14	.39
IN.	.12	.45	.48	.21	2.18	1.47	2.12	3.45	2.60	.51	.16	.43
CAL YR 1980	TOTAL	809213	MEAN	2211	MAX	25600	MIN	105	CFSM	1.36	IN	18.52
WTR YR 1981	TOTAL	619452	MEAN	1697	MAX	23300	MIN	90	CFSM	1.04	IN	14.18

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

KANAWHA RIVER BASIN

03184000 GREENBRIER RIVER AT HILLDALE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 13...	70	30	--	--	10	6	4	--	--	--	--
DEC 16...	90	37	<10	<4	10	3	7	<10	110	<6.0	<4
FEB 11...	--	<10	--	--	10	7	3	--	--	--	--
MAY 13...	60	50	--	--	60	50	6	--	--	--	--
JUN 30...	90	30	--	--	0	0	4	--	--	--	--
JUL 22...	80	30	--	--	20	10	7	--	--	--	--
AUG 26...	90	40	--	--	20	10	10	--	--	--	--

KANAWHA RIVER BASIN

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03184500 NEW RIVER AT HINTON, WV

LOCATION.--Lat 37°40'15", long 80°53'40", Summers County, Hydrologic Unit 05050004, on right bank at Hinton, 0.2 mi (0.3 km) upstream from Madam Creek, 1.5 mi (2.4 km) downstream from Greenbrier River, at New River mile 62.0 (99.8 km) and Kanawha River mile 159.0 (255.8 km).

DRAINAGE AREA.--6,257 mi² (16,206 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,355.18 ft (413.059 m) National Geodetic Vertical Datum of 1929. Prior to June 5, 1949, water-stage recorder at site 400 ft (122 m) upstream at same datum.

REMARKS.--Water-discharge records good. Flow regulated since 1939 by Claytor Lake (station 03169000) and since 1949 by Bluestone Lake (station 03179800). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--45 years, 7,921 ft³/s (224.3 m³/s), 17.19 in/yr (437 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s (6,970 m³/s) Aug. 15, 1940, gage height, 18.97 ft (5.782 m), from rating curve extended above 80,000 ft³/s (2,300 m³/s) on basis of slope-area measurement at station at Bluestone Dam, and gaged inflow from Greenbrier River; minimum, 238 ft³/s (6.74 m³/s) Aug. 21, 1962, gage height, 1.03 ft (0.314 m); minimum daily, 620 ft³/s (17.6 m³/s) Nov. 3, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53,400 ft³/s (1,510 m³/s) May 29, gage height, 8.02 ft (2.445 m); minimum daily, 620 ft³/s (17.6 m³/s) Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2760	3230	2950	2650	2320	6220	12500	5620	18400	3360	2570	1040
2	2680	2910	3860	1930	2400	5520	11900	5100	21500	4340	2000	1060
3	2840	620	3940	3230	6380	6610	10700	4470	22600	3560	1860	1420
4	3400	940	3650	2530	10500	6330	7410	4030	17600	3560	1790	3600
5	2610	2530	4120	1510	6890	9100	6440	4380	18400	3360	1760	7640
6	1660	2480	4070	2840	4960	11100	5780	3860	17700	3690	1720	6110
7	1630	2400	3150	2840	3900	11600	6950	3770	33000	6440	1760	5150
8	2320	2360	2680	2180	3600	8360	8420	3990	22400	8300	2040	4160
9	2480	1860	2650	2040	3360	6160	7000	3690	16100	5780	2210	3560
10	2680	2040	2720	1860	3190	7820	6050	2990	12900	3900	1860	3110
11	3070	2210	3560	1720	7640	7760	5620	6950	14600	3230	2180	2870
12	2110	2070	3730	1450	15200	7060	4340	12900	13000	2870	2290	2720
13	1510	2140	5410	1330	16700	6000	6220	13200	8670	2210	2210	2210
14	2140	3030	3990	1420	11200	4600	5940	9290	6950	2760	2400	1830
15	2070	3150	1790	1900	9420	3900	6720	9040	5620	3440	2440	1570
16	1630	2530	1790	1720	5620	3600	7230	8060	6330	4250	2290	1390
17	1540	1390	1860	1690	6830	3990	8180	6890	6110	4120	1760	2110
18	1540	1270	2720	1600	7700	4470	14100	6330	4690	4030	1600	2570
19	1570	2990	3070	1390	8730	4420	12200	12400	5050	2950	1510	3480
20	1570	2910	2950	1420	12000	4160	10800	33300	5840	2840	1240	2990
21	2040	3560	2110	1760	16000	3600	16800	31200	3820	2870	1240	1760
22	2320	3770	1420	2290	15800	3400	16600	23300	3400	2650	1210	1660
23	3030	3440	2040	3110	15100	3360	12500	17800	4200	2650	1210	1790
24	3230	3230	2950	3110	17800	7000	12300	11100	4380	2720	1010	1760
25	3150	4600	3150	2360	17700	8000	9610	9670	3990	2680	1010	1720
26	2800	7060	2530	2000	13000	8480	8910	8180	3860	2530	1090	1450
27	3730	6890	2000	2400	10200	7940	6490	8120	3310	1860	1210	1270
28	4560	5010	1240	2760	8360	9040	6440	15300	2950	2250	1450	1270
29	3990	4560	1150	3030	---	8480	6490	42600	2440	2570	1360	1240
30	3480	3770	1930	3230	---	7000	5520	39200	2610	2570	1180	1240
31	3480	---	2800	3110	---	9480	---	26700	---	2760	1090	---
TOTAL	79620	90950	87980	68410	262500	204560	266160	393430	312420	107100	52550	75750
MEAN	2568	3032	2838	2207	9375	6599	8872	12690	10410	3455	1695	2525
MAX	4560	7060	5410	3230	17800	11600	16800	42600	33000	8300	2570	7640
MIN	1510	620	1150	1330	2320	3360	4340	2990	2440	1860	1010	1040

CAL YR 1980 TOTAL 2999780 MEAN 8196 MAX 45900 MIN 620 MEAN# 8213 CFSM# 1.31 IN# 17.87
WTR YR 1981 TOTAL 2001430 MEAN 5483 MAX 42600 MIN 620 MEAN# 5479 CFSM# 0.88 IN# 11.89

* Adjusted for change in contents in Claytor (Virginia) and Bluestone Lakes.

KANAWHA RIVER BASIN
03184500 NEW RIVER AT HINTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD.--October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (ME/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
OCT 02...	1510	2580	220	7.7	19.0	--	--	--	--	--	--	--
NOV 12...	1520	1810	240	8.6	9.5	96	35	.0	28	6.4	7.8	.3
DEC 15...	1530	1650	100	8.1	4.0	49	17	.0	16	2.2	3.6	.2
FEB 10...	1640	3060	120	7.6	1.5	25	0	.0	8.0	1.2	1.7	.1
MAR 24...	1730	6830	140	7.5	6.0	--	--	.0	--	--	--	--
MAY 12...	1630	14800	135	7.2	14.5	54	13	--	18	2.3	2.6	.2
JUN 29...	1710	2270	145	8.3	28.0	61	17	.0	20	2.6	3.5	.2
JUL 22...	1815	2600	152	8.8	30.0	76	--	--	23	4.5	4.9	.2
AUG 25...	1930	4600	183	8.8	25.5	69	16	.0	19	5.2	5.9	.3

DATE	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLORIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
OCT 02...	--	--	--	--	--	--	--	--	--	--	--
NOV 12...	77	26	12	--	144	--	.29	704	--	--	--
DEC 15...	39	11	5.4	3.2	71	63	.19	316	--	--	<.010
FEB 10...	37	8.8	3.6	--	52	--	.07	430	--	--	--
MAR 24...	44	--	--	--	--	--	--	--	.58	2.6	.010
MAY 12...	41	11	3.5	--	82	--	.11	3280	--	--	--
JUN 29...	54	11	4.8	--	92	--	.13	564	--	--	--
JUL 22...	68	14	5.8	--	101	--	.14	709	--	--	--
AUG 25...	61	18	7.2	--	125	--	.17	1550	--	--	--

[illegible]

KANAWHA RIVER BASIN

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03184500 NEW RIVER AT HINTON, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 12...	130	50	--	--	20	10	10	--	--	--	--
DEC 15...	160	55	<10	<4	20	8	12	<10	110	<6.0	<4
FEB 10...	400	10	--	--	10	3	7	--	--	--	--
MAY 12...	810	80	--	--	70	60	9	--	--	--	--
JUN 29...	130	50	--	--	20	0	20	--	--	--	--
JUL 22...	110	30	--	--	20	10	9	--	--	--	--
AUG 25...	510	50	--	--	70	50	20	--	--	--	--

KANAWHA RIVER BASIN

03184950 SOAK CREEK AT SOPHIA, WV
(Formerly published as Soak Creek near Sophia)

LOCATION.--Lat 37°42'27", long 81°15'00", Raleigh County, Hydrologic Unit 05050004, at end of culvert on Old State Highway 16 at Sophia, 1.5 mi (2.4 km) upstream from Laurel Branch, and 2.7 mi (4.3 km) upstream from Piney Creek.

DRAINAGE AREA.--3.96 mi² (10.26 km²).

PERIOD OF RECORD.--October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
29...	1445	.25	250	7.3	9.5	9.2	39	.03
NOV								
26...	1445	1.4	148	7.0	5.0	8.2	14	.05
DEC								
31...	1045	.84	220	6.7	2.7	9.2	19	.04
JAN								
28...	1035	4.7	128	6.8	1.5	12.0	11	.14
FEB								
19...	1420	5.1	170	6.2	5.0	8.9	33	.45
MAR								
31...	1240	3.6	148	6.7	12.0	10.0	13	.13
APR								
20...	1125	6.9	130	6.9	11.0	9.2	51	.95
MAY								
12...	1030	1.0	187	7.1	10.5	9.8	6	.02
19...	1250	49	105	--	12.0	--	405	54
19...	1255	47	104	--	12.0	--	382	48
19...	1320	43	137	--	--	--	599	70
19...	1330	47	108	--	--	--	386	49
19...	1445	48	104	--	--	--	402	52
19...	1530	11	108	--	--	--	348	10
19...	1600	36	96	--	--	--	314	31
19...	1630	36	146	--	--	--	173	17
JUN								
25...	1115	.89	202	7.5	18.0	8.9	59	.14
JUL								
14...	1200	34	126	--	--	--	330	30
14...	1230	36	126	--	--	--	299	29
14...	1300	38	126	--	--	--	298	31
14...	1330	37	126	--	--	--	305	30
14...	1400	36	125	--	--	--	303	29
14...	1430	36	123	--	--	--	322	31
14...	1500	36	125	--	--	--	297	29
14...	1530	36	129	--	--	--	276	27
14...	1600	36	125	--	--	--	306	30
30...	1330	.46	210	7.4	18.0	8.2	18	.02
31...	1400	.10	243	--	--	--	21	.01
AUG								
31...	1400	.10	230	7.3	21.0	7.7	21	.01
SEP								
30...	1330	.12	270	7.3	15.5	9.2	24	.01

KANAWHA RIVER BASIN

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03185000 PINEY CREEK AT RALEIGH, WV

LOCATION.--Lat 37°45'40", long 81°09'50", Raleigh County, Hydrologic Unit 05050004, on left bank at Raleigh, 0.5 mi (0.8 km) downstream from Whitestick Creek, 0.5 mi (0.8 km) upstream from Beaver Creek, 1.5 mi (2.4 km) southeast of Beckley, and at mile 12.0 (19.3 km).

DRAINAGE AREA.--52.2 mi² (135.2 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1951 to current year.

REVISED RECORDS.--WSP 1435: 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 2,087.24 ft (636.191 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for December, January, and February, which are poor.

AVERAGE DISCHARGE.--30 years, 62.3 ft³/s (1.764 m³/s), 16.21 in/yr (412 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,870 ft³/s (81.3 m³/s) Mar. 12, 1963, gage height, 6.49 ft (1.978 m); minimum, 0.2 ft³/s (0.006 m³/s) Sept. 5-18, 21-23, 1964; minimum gage height, 1.07 ft (0.326 m) Sept. 9-12, 16, 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 765 ft³/s (21.7 m³/s) June 7, gage height, 3.62 (1.103 m), no other peak above base of 700 ft³/s (20 m³/s); minimum, 5.4 ft³/s (0.153 m³/s) Oct. 21-24, Aug. 29, Sept. 2, gage height, 1.30 ft (0.396 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	7.5	25	23	49	104	79	51	265	54	17	6.3
2	9.6	7.1	26	19	109	109	107	49	450	35	17	6.2
3	10	7.5	28	16	112	96	86	42	317	29	17	20
4	14	8.8	25	14	89	84	68	39	262	27	16	95
5	11	9.2	25	13	70	174	86	36	217	32	15	39
6	9.2	8.3	24	16	60	174	84	35	265	89	41	54
7	7.9	7.5	22	22	50	137	68	34	660	129	27	77
8	7.9	7.5	21	19	45	107	75	31	351	69	29	28
9	7.9	7.9	24	17	39	84	86	29	187	46	25	22
10	7.5	10	28	15	43	70	72	28	138	39	19	18
11	8.3	7.9	25	14	81	63	64	41	152	33	17	14
12	7.5	7.1	25	13	120	57	61	41	118	28	34	12
13	6.7	6.2	25	12	90	51	68	35	98	26	23	10
14	6.2	6.2	22	15	63	47	66	33	86	71	18	9.2
15	6.7	6.2	21	11	54	42	65	48	68	106	16	11
16	6.7	6.7	21	13	45	55	58	44	58	66	19	21
17	6.7	12	21	13	75	61	108	40	81	59	20	17
18	6.2	28	20	12	91	55	152	43	56	43	16	12
19	5.8	21	20	12	91	55	124	259	48	36	13	12
20	6.7	16	16	11	109	53	140	397	44	31	12	10
21	5.4	13	13	15	120	51	130	244	40	32	11	9.3
22	5.4	12	11	19	104	53	110	139	37	28	11	8.6
23	5.8	12	9.2	23	123	57	97	96	35	26	9.5	8.1
24	5.8	70	16	26	146	75	100	73	31	24	9.0	7.7
25	22	89	14	39	109	91	86	60	34	23	8.5	7.5
26	22	49	11	47	99	91	74	52	54	22	8.0	6.9
27	14	39	12	79	77	91	66	79	35	21	7.3	6.8
28	9.2	33	14	91	68	86	59	136	29	23	6.8	6.5
29	8.3	30	16	77	---	77	55	168	26	26	6.3	6.1
30	8.3	26	23	57	---	81	52	171	33	23	6.2	6.3
31	7.9	---	22	45	---	68	---	214	---	19	6.3	---
TOTAL	276.2	571.6	625.2	818	2331	2499	2546	2787	4275	1315	500.9	567.5
MEAN	8.91	19.1	20.2	26.4	83.3	80.6	84.9	89.9	143	42.4	16.2	18.9
MAX	22	89	28	91	146	174	152	397	660	129	41	95
MIN	5.4	6.2	9.2	11	39	42	52	28	26	19	6.2	6.1
CFSM	.17	.37	.39	.51	1.60	1.54	1.63	1.72	2.74	.81	.31	.36
IN.	.20	.41	.45	.58	1.66	1.78	1.81	1.99	3.05	.94	.36	.40
CAL YR 1980	TOTAL	26862.0	MEAN 73.4	MAX 725	MIN 5.4	CFSM 1.41	IN 19.14					
WTR YR 1981	TOTAL	19112.4	MEAN 52.4	MAX 660	MIN 5.4	CFSM 1.00	IN 13.62					

KANAWHA RIVER BASIN
03185000 PINEY CREEK AT RALEIGH, WV--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE:--October 1979 to current year.

INSTRUMENTATION.--Conductance recorder since October 1979.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE.--Maximum, 474 micromhos Sept. 30, 1981; minimum, 102 micromhos Dec. 16, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE.--Maximum, 474 micromhos Sept. 30; minimum, 102 micromhos Dec. 16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO
NOV 10...	1130	10	360	8.0	10.0	94	46	.0	23	8.9	29	1.3
DEC 15...	1040	19	180	7.3	2.0	66	39	.0	16	6.3	16	.9
FEB 10...	1100	36	260	7.7	.0	40	19	.0	9.8	3.8	12	.8
MAR 24...	1010	54	380	7.9	4.5	--	--	.0	--	--	--	--
MAY 12...	1100	38	310	7.5	13.0	82	43	--	20	7.9	19	.9
JUN 29...	1100	24	295	7.3	21.0	96	66	.0	23	9.4	13	.6
JUL 22...	1045	28	360	8.1	22.0	99	--	--	23	10	15	.7
AUG 25...	1030	8.5	360	8.1	19.0	100	62	.0	25	9.7	24	1.0

DATE	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)
NOV 10...	48	81	11	--	218	--	.30	5.8	--	--	--	--
DEC 15...	27	52	11	6.3	137	128	.19	7.0	.66	2.9	.021	.07
FEB 10...	26	29	13	--	89	--	.12	8.6	--	--	--	--
MAR 24...	36	--	--	--	--	--	--	--	.71	3.1	.010	.03
MAY 12...	48	67	10	--	186	--	.25	19.1	--	--	--	--
JUN 29...	37	84	7.7	--	214	--	.29	14.0	--	--	--	--
JUL 22...	31	89	6.1	5.9	222	165	.30	16.8	--	--	--	--
AUG 25...	46	95	9.6	--	220	--	.30	5.0	--	--	--	--

KANAWHA RIVER BASIN

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03185000 PINEY CREEK AT RALEIGH, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 10...	--	--	--	--	--	--	--	--	--	490	440	50
DEC 15...	.68	.310	.020	.06	50	<0	<1	<3	<10	490	400	86
FEB 10...	--	--	--	--	--	--	--	--	--	380	350	30
MAR 24...	.72	.180	.010	.03	--	--	--	--	--	--	--	--
MAY 12...	--	--	--	--	--	--	--	--	--	830	820	10
JUN 29...	--	--	--	--	--	--	--	--	--	520	--	<10
JUL 22...	--	--	--	--	--	--	--	--	--	490	470	20
AUG 25...	--	--	--	--	--	--	--	--	--	260	210	50

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 10...	--	--	90	19	80	--	--	--	--	--	--
DEC 15...	<10	8	190	0	200	<10	170	<6.0	5	--	--
FEB 10...	--	--	230	40	190	--	--	--	--	--	--
MAY 12...	--	--	300	80	220	--	--	--	--	105	11
JUN 29...	--	--	260	40	220	--	--	--	--	--	--
JUL 22...	--	--	180	20	160	--	--	--	--	--	--
AUG 25...	--	--	100	10	90	--	--	--	--	--	--

KANAWHA RIVER BASIN

03185000 PINEY CREEK AT RALEIGH, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	339	358	170	194	183	202	230	274	---	304	---	407
2	337	357	171	220	231	191	230	283	---	306	---	406
3	343	354	167	239	207	180	203	294	---	310	---	376
4	358	351	161	229	192	186	193	296	---	299	---	338
5	364	350	152	218	187	198	211	298	---	313	---	369
6	371	354	143	219	192	185	219	300	---	303	---	366
7	371	354	135	202	200	183	211	308	---	275	---	274
8	375	350	136	201	239	186	230	317	---	260	---	311
9	366	348	131	211	247	187	217	313	---	277	---	324
10	363	358	134	212	254	194	231	318	---	291	---	343
11	364	368	148	220	298	207	228	322	---	286	---	359
12	373	361	136	219	278	214	238	335	---	294	---	374
13	373	351	123	217	238	219	243	333	---	304	---	389
14	372	349	119	228	211	226	247	313	---	300	---	396
15	369	349	111	249	209	234	253	312	---	253	---	405
16	372	350	108	263	213	245	245	320	---	225	---	393
17	374	330	114	275	250	248	241	309	---	237	---	388
18	376	316	119	278	242	245	212	295	---	249	---	393
19	379	301	125	283	209	310	195	281	---	260	---	402
20	382	310	147	285	215	328	209	---	---	263	---	404
21	385	301	167	323	211	295	209	---	---	271	---	424
22	386	293	176	343	186	259	205	---	---	283	---	440
23	383	280	173	340	185	304	209	---	---	289	---	451
24	384	230	166	308	189	346	231	---	---	294	---	454
25	355	180	183	287	171	301	238	---	342	---	382	465
26	367	160	202	257	175	246	243	---	343	---	387	465
27	373	157	190	216	181	219	243	---	342	---	398	466
28	369	162	178	184	190	205	247	---	335	---	397	466
29	365	169	177	166	---	196	256	---	338	---	396	462
30	360	179	213	164	---	205	262	---	347	---	398	466
31	364	---	196	176	---	212	---	---	---	---	407	---
MEAN	368	301	154	240	214	231	228	306	341	281	395	399
WTR YR 1981	MEAN	275		MAX	466	MIN	108					

KANAWHA RIVER BASIN

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03185120 LITTLE WHITESTICK CREEK AT BECKLEY, WV

LOCATION.--37°47'23", long 81°10'21", Raleigh County, Hydrologic Unit 05050004, at the downstream end of bridge on U.S. Highway 19 - State Highway 41 at Beckley, and 0.4 mi (0.6 km) upstream from Cranberry Creek.

DRAINAGE AREA.--4.57 mi² (11.84 km²).

PERIOD OF RECORD.--October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
29...	1550	.32	460	7.2	9.0	7.4	27	.02
NOV								
26...	1605	3.3	350	6.9	5.0	8.6	69	.61
DEC								
31...	1200	.60	1300	7.5	2.2	8.2	114	.18
JAN								
28...	1150	4.2	454	7.1	1.5	12.0	24	.27
FEB								
19...	1345	4.6	655	7.0	7.5	9.0	56	.70
MAR								
31...	1420	2.4	500	7.3	16.0	9.1	9	.06
APR								
20...	1350	14	--	--	--	--	48	1.8
MAY								
12...	1200	.62	--	--	--	--	6	.01
20...	1015	34	247	--	10.0	--	90	8.3
20...	1020	34	243	--	10.0	--	93	8.5
20...	1045	32	257	--	11.0	--	129	11
20...	1050	27	267	--	--	--	109	7.9
20...	1115	24	265	--	--	--	264	17
JUN								
25...	1225	.33	460	7.8	23.0	8.2	2	.01
JUL								
30...	1240	.29	540	7.9	18.5	7.5	54	.04
AUG								
31...	1510	1.3	498	8.4	20.0	7.9	6	.02
SEP								
30...	1230	.07	500	8.0	12.0	10.1	--	--

KANAWHA RIVER BASIN

03185130 CRANBERRY CREEK AT BECKLEY, WV

LOCATION.--Lat 37°47'42", long 81°10'22", Raleigh County, Hydrologic Unit 05050004, at Beckley at bridge on State Highway 41 about 800 ft (244 m) north of the intersection of U.S. Highway 19 and State Highway 41, 0.4 mi (0.6 km) upstream from Little Whitestick Creek, and 1.9 mi (3.1 km) upstream from Piney Creek.

DRAINAGE AREA.--6.58 mi² (17.04 km²).

PERIOD OF RECORD.--October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
29...	1650	1.8	850	7.3	8.5	8.3	8	.04
NOV								
26...	1500	3.1	600	7.1	4.5	8.5	26	.22
DEC								
31...	1230	.57	1150	7.2	2.1	9.3	57	.09
JAN								
28...	1335	6.7	496	7.2	3.5	11.0	19	.34
FEB								
19...	1300	8.0	492	5.0	6.5	9.6	42	.91
MAR								
31...	1500	5.6	650	7.7	15.0	9.4	30	.45
APR								
20...	1430	19	--	--	--	--	51	2.6
MAY								
12...	1245	3.4	--	--	--	--	31	.28
20...	1000	94	157	--	10.0	--	41	10
20...	1010	94	155	--	10.0	--	33	8.4
20...	1030	85	150	--	--	--	43	9.9
20...	1035	85	148	--	11.0	--	43	9.9
20...	1100	85	170	--	10.0	--	35	8.0
20...	1105	85	152	--	10.0	--	53	12
JUN								
25...	1250	1.6	800	6.3	19.5	8.2	7	.03
JUL								
30...	1125	.94	875	7.3	19.0	7.4	8	.02
AUG								
31...	1555	1.0	925	8.5	19.0	9.2	--	--
SEP								
30...	1200	.44	1050	8.1	12.5	9.6	4	.01

KANAWHA RIVER BASIN

231

03185400 NEW RIVER AT THURMOND, WV

LOCATION.--Lat 37°57'18", long 81°04'36", Fayette County, Hydrologic Unit 05050004, on right bank at Thurmond, at Chessie System pump house, 0.1 mi (0.2 km) upstream from Dunloup Creek, 0.3 mi (0.5 km) upstream from railroad/highway bridge, at New River mile 25.8 (41.5 km) and Kanawha River mile 122.4 (196.9 km).

DRAINAGE AREA.--6,687 mi² (17,319 km²).

PERIOD OF RECORD.--February to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 1,037.71 ft (316.294 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Claytor Lake (station 03169000) and Bluestone Lake (station 03179800). National Park Service gage-height telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period February to September, 62,600 ft³/s (1,770 m³/s) May 29, gage height, 16.33 ft (4.977 m); minimum, 860 ft³/s (24.4 m³/s) Aug. 26, 27, gage height, 1.45 ft (0.442 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	7850	13300	5500	21600	2920	2670	1020
2					---	6100	13200	5760	23500	3990	2120	995
3					---	6640	12200	4720	26900	3740	1900	1040
4					---	6740	9420	4260	21600	3140	1790	2440
5					---	9320	7250	3860	21900	3260	1720	6240
6					---	12800	6700	4500	21200	4020	1830	7320
7					---	13000	6560	3450	39600	5640	1790	5560
8					---	10800	8370	3890	29700	8750	1910	4230
9					---	6660	8420	3770	18000	7000	1970	3810
10					---	7350	6300	3330	14800	4190	2140	3000
11					---	8450	5980	4120	14600	3260	1870	2850
12					---	7320	5030	13600	14900	2990	2300	2520
13					---	6600	5840	14800	9960	2330	2210	2530
14					---	5050	5650	11000	7750	2240	2170	1810
15					---	3980	7370	9470	5980	3170	2380	1750
16					---	3700	7450	9620	5380	3770	2400	1530
17					---	3540	8970	7620	6880	4520	2080	1420
18					---	4260	14700	6500	5180	3450	1630	2340
19					9470	4370	15400	12800	4330	4130	1570	2550
20					12400	4230	12300	38300	5570	2060	1380	3600
21					16600	3820	16200	36100	5340	3110	1230	2100
22					17600	3350	18700	26800	2850	2510	1210	1520
23					16800	3390	14600	19900	3210	2470	1190	1660
24					18400	4070	12900	13700	4390	2560	1190	1680
25					20400	7770	11700	9960	3720	2550	974	1650
26					15300	9400	9020	9470	3740	2570	869	1610
27					11400	8970	9350	8400	3420	2070	1040	1260
28					9620	9220	6080	14400	2720	1850	1150	1200
29					---	9800	7120	44400	2600	2420	1420	1170
30					---	7820	6100	46200	2090	2460	1190	1170
31					---	8120	---	32200	---	2420	1120	---
TOTAL					---	214490	292180	432400	353410	105560	52413	73575
MEAN					---	6919	9739	13950	11780	3405	1691	2453
MAX					---	13000	18700	46200	39600	8750	2670	7320
MIN					---	3350	5030	3330	2090	1850	869	995

KANAWHA RIVER BASIN

03186500 WILLIAMS RIVER AT DYER, WV

LOCATION.--Lat 38°22'45", long 80°29'05", Webster County, Hydrologic Unit 05050005, on left bank at Dyer, 0.2 mi (0.3 km) downstream from Craig Run, 7.0 mi (11.3 km) southwest of Webster Springs, and at mile 2.1 (3.4 km).

DRAINAGE AREA.--128 mi² (332 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1929 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1930.

GAGE.--Water-stage recorder. Datum of gage is 2,193.46 ft (668.567 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to June 11, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for December, January, February, and period of no gage-height record, August 29 to September 30, which are poor.

AVERAGE DISCHARGE.--52 years, 331 ft³/s (9.374 m³/s), 35.12 in/yr (892 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s (623 m³/s) July 4, 1932, gage-height, 18.45 ft (5.624 m), from floodmarks, from rating curve extended above 7,000 ft³/s (200 m³/s) on basis of slope-area measurements at gage heights 12.33 ft (3.758 m) and 18.45 ft (5.624 m); minimum daily, 0.5 ft³/s (0.014 m³/s) Oct. 13-16, 21, 1953; minimum gage height, 0.44 ft (0.134 m) Oct. 5, 6, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,600 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 28	2230	5480 155	8.15 2.484	June 10	0715	*19200 544	16.55 5.044

Minimum daily discharge, 7.8 ft³/s (0.22 m³/s), Aug. 31, Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	122	215	130	110	1360	1110	279	885	97	86	7.8
2	35	106	348	120	754	781	952	304	803	128	63	9.0
3	36	92	707	110	500	545	659	258	755	94	120	10
4	46	86	434	86	334	408	520	221	1110	90	195	1200
5	44	94	335	72	254	453	781	190	818	115	115	500
6	36	88	284	86	210	545	734	185	1530	555	187	220
7	30	78	251	120	180	417	530	203	1230	394	723	180
8	27	71	219	100	145	309	408	167	697	212	340	170
9	21	70	244	80	125	258	381	145	480	152	200	250
10	21	112	505	67	120	206	453	131	6800	124	140	190
11	21	92	367	71	2050	190	354	1110	1600	107	103	120
12	21	78	294	80	1060	167	300	1030	792	80	101	90
13	18	60	248	69	647	165	272	691	540	70	90	72
14	16	65	204	59	480	172	237	475	444	97	67	56
15	16	63	171	52	370	145	289	818	289	77	55	100
16	15	63	160	48	354	182	227	750	206	61	49	250
17	14	68	139	44	611	162	797	580	160	63	44	180
18	15	318	112	43	1100	165	1010	515	126	50	36	130
19	15	240	92	43	1490	152	638	1480	103	42	29	120
20	14	170	74	41	1930	136	575	1550	109	50	23	120
21	13	147	52	40	2510	126	457	878	113	55	21	100
22	13	125	62	44	1450	115	354	580	195	42	18	75
23	13	112	88	47	2340	116	304	394	140	33	16	64
24	13	1750	125	50	1520	122	413	275	96	29	13	52
25	122	1320	140	58	840	170	408	206	77	35	11	45
26	231	640	120	135	601	258	403	170	133	33	9.7	40
27	108	447	98	221	439	1050	331	148	99	29	9.4	35
28	130	357	110	239	413	1260	268	2430	70	224	8.8	30
29	318	293	130	203	---	1140	233	2470	56	457	8.6	27
30	183	234	140	160	---	1900	240	1130	51	254	8.2	24
31	125	---	135	125	---	1350	---	1300	---	133	7.8	---
TOTAL	1767	7561	6603	2843	22937	14525	14638	21063	20507	3982	2897.5	4466.8
MEAN	57.0	252	213	91.7	819	469	488	679	684	128	93.5	149
MAX	318	1750	707	239	2510	1900	1110	2470	6800	555	723	1200
MIN	13	60	52	40	110	115	227	131	51	29	7.8	7.8
CFSM	.45	1.97	1.66	.72	6.40	3.66	3.81	5.31	5.34	1.00	.73	1.16
IN.	.51	2.20	1.92	.83	6.67	4.22	4.25	6.12	5.96	1.16	.84	1.30

CAL YR 1980	TOTAL	124462.0	MEAN 340	MAX 2450	MIN 13	CFSM 2.66	IN 36.17
WTR YR 1981	TOTAL	123790.3	MEAN 339	MAX 6800	MIN 7.8	CFSM 2.65	IN 35.98

03186500 WILLIAMS RIVER AT DYER, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 09...	1530	22	40	7.0	17.0	9.5	--	--	--	--	--	--
NOV 13...	1535	53	35	7.0	5.5	12.0	--	--	--	--	--	--
JAN 07...	1630	95	25	7.2	.0	12.9	--	--	--	--	--	--
FEB 23...	1800	3300	30	5.8	3.5	--	--	--	--	--	--	--
APR 10...	0900	472	32	6.2	7.0	11.4	--	--	--	--	--	--
MAY 29...	1715	1730	28	7.1	12.0	--	--	--	--	--	--	--
JUL 17...	1235	62	38	7.4	23.5	--	--	--	--	--	--	--
22...	0730	44	45	7.3	21.0	--	17	--	--	5.0	1.2	1.2
AUG 26...	1130	9.8	52	7.6	20.5	8.4	17	0	.0	5.0	1.2	3.0
DATE		SODIUM AD- SORP- TION RATIO	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
JUL 22...		.1	13	4.8	.3	--	28	--	.04	3.3	--	--
AUG 26...		.3	17	5.6	.4	2.3	--	27	.04	.71	<.010	.13
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
JUL 22...		--	--	--	--	--	--	--	--	--	--	--
AUG 26...		.020	<.010	90	80	10	<1	40	<1	4	<1	<10
DATE		COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
JUL 22...		--	--	--	--	170	140	30	--	--	--	--
AUG 26...		4	<10	<10	1	270	200	67	970	<10	<10	<4
DATE		MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
JUL 22...		10	--	<10	--	--	--	--	--	--	--	--
AUG 26...		40	20	20	140	<.01	<10	<1	23	<6.0	6	18

KANAWHA RIVER BASIN

03187300 NORTH FORK CRANBERRY RIVER NEAR HILLSBORO, WV

LOCATION.--Lat 38°15'27", long 80°19'25", Pocahontas County, Hydrologic Unit 05050005, Monongahela National Forest, on right bank at U.S. Forest Service bridge, 100 ft (30 m) upstream from mouth, and 10.5 mi (16.9 km) northwest of Hillsboro.

DRAINAGE AREA.--9.97 mi² (25.82 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to September 1971, October 1979 to current year.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 3,165.40 ft (964.814 m) National Geodetic Vertical Datum of 1929. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

REMARKS.--Water-discharge records good except those for period of no gage-height record, Oct. 23 to Jan. 6, and those for January, February, and March, which are poor.

AVERAGE DISCHARGE.--5 years (water years 1969-71, 1980-81), 27.8 ft³/s (0.79 m³/s), 37.87 in/yr (962 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 864 ft³/s (24.5 m³/s) Dec. 31, 1969, gage height, 3.93 ft (1.198 m), from rating curve extended above 70 ft³/s (2.0 m³/s) on basis of theoretical weir formula; minimum, 0.77 ft³/s (0.022) Sept. 20, 21, 1980, gage height, 1.31 ft (0.399 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft³/s (9.9 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 11	0130	364 10.3	3.12 0.951	May 28	1945	465 13.2	3.32 1.012
Feb. 23	1015	499 14.1	3.38 1.030	June 10	0900	*786 22.3	3.81 1.161

Minimum discharge, 0.84 ft³/s (0.024 m³/s) Aug. 29, gage height, 1.32 ft (0.402 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	8.0	18	12	11	105	106	21	48	24	2.4	1.7
2	1.7	6.7	26	11	108	51	77	22	52	22	1.8	2.3
3	2.3	5.7	52	9.8	42	36	51	18	41	15	4.9	7.7
4	3.6	5.2	35	7.4	28	30	41	16	60	13	6.5	139
5	3.2	5.6	29	6.4	23	34	67	14	44	11	3.9	44
6	2.5	5.2	24	8.7	19	30	46	14	56	33	22	20
7	2.2	4.8	21	12	15	25	32	14	63	47	24	16
8	1.9	4.1	18	10	13	22	26	12	40	23	11	19
9	1.8	4.1	21	7.4	11	18	34	11	34	17	7.8	21
10	1.6	5.0	45	6.2	10	16	38	11	235	16	6.5	14
11	1.6	4.6	34	6.8	179	14	30	119	85	14	5.7	11
12	1.4	4.0	27	7.4	78	14	27	73	45	11	8.2	8.9
13	1.3	3.5	22	6.2	54	13	26	46	32	8.8	6.5	7.7
14	1.2	3.3	19	5.4	30	13	24	33	26	8.8	5.3	6.9
15	1.3	3.3	16	4.8	25	15	26	74	20	7.0	4.6	11
16	1.2	3.4	14	4.4	25	13	21	53	16	6.2	10	20
17	1.2	4.0	13	4.0	46	14	79	40	13	6.1	7.1	13
18	1.2	17	10	4.0	86	13	62	44	11	5.3	5.7	9.9
19	1.2	17	11	3.9	121	12	40	124	9.7	4.9	4.2	11
20	1.2	12	7.4	3.8	150	12	38	120	9.7	6.5	3.5	10
21	1.1	11	5.1	3.6	121	11	30	62	11	5.3	2.7	8.4
22	1.1	9.2	6.0	4.2	109	10	24	41	12	4.2	2.2	7.4
23	1.1	8.7	8.0	4.5	222	9.8	26	31	10	3.2	2.2	6.5
24	1.1	120	10	4.8	103	9.6	39	24	7.8	3.0	1.6	5.7
25	11	110	12	5.2	57	9.9	34	19	6.5	3.5	1.3	5.3
26	15	64	11	6.1	39	13	34	16	8.8	2.8	1.1	4.2
27	7.2	39	9.2	7.8	32	38	27	18	7.8	2.1	1.0	3.5
28	12	31	10	7.7	45	46	23	232	6.5	4.2	.95	3.2
29	20	25	12	7.1	---	76	20	142	5.3	8.3	1.3	2.8
30	13	21	13	7.0	---	178	20	70	4.6	6.1	1.3	2.4
31	9.4	---	12	8.7	---	121	---	65	---	3.9	1.1	---
TOTAL	127.4	565.4	570.7	208.3	1802	1022.3	1168	1599	1020.7	346.2	168.35	443.5
MEAN	4.11	18.8	18.4	6.72	64.4	33.0	38.9	51.6	34.0	11.2	5.43	14.8
MAX	20	120	52	12	222	178	106	232	235	47	24	139
MIN	1.1	3.3	5.1	3.6	10	9.6	20	11	4.6	2.1	.95	1.7
CFSM	.41	1.89	1.85	.67	6.46	3.31	3.90	5.18	3.41	1.12	.55	1.48
IN.†	.48	2.11	2.13	.78	6.72	3.81	4.36	5.97	3.81	1.29	.63	1.65
IN.‡	.57	---	---	2.43	3.17	3.53	6.09	5.02	6.65	4.81	3.31	4.83

CAL YR 1980	TOTAL	9325.43	MEAN	25.5	MAX	172	MIN	.84	CFSM	2.56	IN	34.79
WTR YR 1981	TOTAL	9041.85	MEAN	24.8	MAX	235	MIN	.95	CFSM	2.49	IN	33.73

† Runoff.
‡ Rainfall.

03187300 NORTH FORK CRANBERRY RIVER NEAR HILLSBORO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT 07...	1300	2.0	20	5.2	6.5	10.3	--	--	--	--
DEC 12...	0930	26	30	5.0	2.0	12.5	--	--	5	4
JAN 06...	1330	8.0	26	5.1	.0	12.7	--	--	6	5
FEB 24...	1100	107	39	4.5	2.0	--	<1	<1	6	6
MAR 31...	1100	106	35	4.5	5.0	10.4	<1	<1	6	6
JUN 02...	1315	58	28	4.5	11.0	--	--	--	6	6
JUL 16...	1730	7.2	24	4.9	17.0	--	--	--	--	--
22...	1200	4.2	23	5.1	17.5	--	--	--	6	--
AUG 25...	1730	1.3	23	4.9	18.0	8.6	K2	<1	--	--

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SOP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD AS (MG/L CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 07...	.1	--	--	--	--	.4	1	5.4	.5	.0
DEC 12...	.1	1.4	.4	.3	.1	--	1	5.7	1.0	--
JAN 06...	.0	1.5	.6	.3	.1	--	1	4.8	.7	--
FEB 24...	.1	1.6	.5	.2	.0	--	0	5.1	.5	--
MAR 31...	.1	1.6	.5	.3	.1	--	0	5.3	.7	--
JUN 02...	.1	1.4	.5	<.2	--	--	0	4.7	.4	--
JUL 16...	--	--	--	--	--	--	--	--	--	--
22...	--	1.4	.5	.3	.1	--	1	6.2	.3	--
AUG 25...	--	--	--	--	--	--	1	--	--	--

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N02)	NITRO- GEN, N02+N03 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT 07...	3.1	--	--	--	--	--	--	--	--
DEC 12...	3.0	15	17	.02	1.0	<.010	<.03	.84	.010
JAN 06...	--	14	--	.02	.30	--	--	--	--
FEB 24...	2.6	16	16	.02	4.6	<.010	--	1.1	.030
MAR 31...	2.5	16	16	.02	4.5	<.010	--	1.1	.040
JUN 02...	--	14	--	.02	2.1	--	--	--	--
JUL 16...	--	--	--	--	--	--	--	--	--
22...	--	18	--	.02	.20	--	--	--	--
AUG 25...	--	--	--	--	--	<.010	--	.29	.020

WATER QUALITY DATA. WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

KANAWHA RIVER BASIN

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03187500 CRANBERRY RIVER NEAR RICHWOOD, WV

LOCATION.--Lat 38°17'45", long 80°31'40", Nicholas County, Hydrologic Unit 05050005, Monongahela National Forest, on left bank 30 ft (9 m) downstream from U.S. Forest Service highway bridge, 0.6 mi (1.0 km) upstream from Barrenshe Run, 5.0 mi (8.0 km) north of Richwood, and at mile 5.4 (8.7 km).

DRAINAGE AREA.--81.2 mi² (210 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to December 1951, June 1964 to September 1971, October 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,100 ft (640 m), from topographic map.

REMARKS.--Water-discharge records good except those for October, December, January, and February, which are poor.

AVERAGE DISCHARGE.--16 years (water years 1945-51, 1965-71, 1980-81), 223 ft³/s (6.315 m³/s), 37.29 in/yr (947 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,260 ft³/s (234 m³/s) Mar. 7, 1967, from floodmarks, and June 10, 1981, gage height, 9.18 ft (2.798 m), from rating curve extended above 4,000 ft³/s (110 m³/s); minimum, 0.8 ft³/s (0.02 m³/s) Sept. 17, 18, 1967, gage height 1.35 ft (0.411 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,900 ft³/s (82 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 23	1300	3000 85.0	6.60 2.012	June 10	0630	*8260 234	9.18 2.798
May 28	2200	5990 170	8.27 2.521				

Minimum discharge, 4.8 ft³/s (0.14 m³/s), Sept. 1, gage height, 1.67 ft (0.509 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	62	147	100	84	886	688	174	581	122	31	4.9
2	13	52	204	95	480	491	587	179	546	113	21	5.9
3	13	45	434	80	380	341	388	156	428	80	49	6.9
4	19	42	273	63	240	260	303	136	715	68	77	816
5	22	46	219	51	190	310	460	119	599	66	50	412
6	18	42	190	63	150	358	436	122	729	373	77	140
7	15	37	170	88	125	275	323	138	736	251	281	110
8	13	33	149	78	105	216	254	113	432	150	138	106
9	13	33	168	60	92	179	248	100	341	108	89	169
10	12	41	380	50	86	144	358	90	3010	89	62	100
11	12	37	267	52	1380	130	275	1000	1020	75	46	72
12	11	30	219	61	740	112	243	809	491	57	66	56
13	10	27	181	52	430	108	240	475	341	52	60	43
14	10	27	151	45	330	112	205	327	281	68	41	34
15	9.5	27	126	40	230	95	240	552	195	52	32	58
16	9.3	27	115	37	219	119	190	460	140	40	54	163
17	9.3	31	102	34	368	106	575	358	108	36	52	117
18	9.1	143	84	33	690	106	662	317	87	29	33	80
19	9.1	134	76	33	987	100	404	894	68	24	24	77
20	9.1	94	54	29	1440	89	341	1080	67	30	18	77
21	9.1	84	37	30	1810	83	366	569	86	31	15	60
22	9.3	74	49	33	986	83	213	355	134	23	12	48
23	9.3	70	62	36	1790	76	188	251	92	18	10	40
24	9.1	997	80	38	1230	76	297	186	67	16	9.2	34
25	60	901	100	47	552	93	287	144	55	16	7.9	30
26	120	462	90	69	377	132	272	115	79	15	7.1	26
27	56	300	71	166	278	460	226	98	63	13	6.6	21
28	66	240	77	219	260	729	186	3910	44	43	6.2	19
29	170	200	96	186	---	668	165	2310	33	119	5.7	17
30	105	164	110	130	---	1270	169	878	31	101	5.3	15
31	74	---	100	100	---	944	---	839	---	54	4.9	---
TOTAL	937.2	4502	4581	2198	16029	9151	9789	17254	11599	2332	1390.9	2957.7
MEAN	30.2	150	148	70.9	572	295	326	557	387	75.2	44.9	98.6
MAX	170	997	434	219	1810	1270	688	3910	3010	373	281	816
MIN	9.1	27	37	29	84	76	165	90	31	13	4.9	4.9
CFSM	.37	1.85	1.82	.87	7.04	3.63	4.02	6.86	4.77	.93	.55	1.21
IN.	.43	2.06	2.10	1.01	7.34	4.19	4.48	7.90	5.31	1.07	.64	1.35
CAL YR 1980	TOTAL	78760.1	MEAN 215	MAX 1970	MIN 7.2	CFSM 2.65	IN 36.08					
WTR YR 1981	TOTAL	82720.8	MEAN 227	MAX 3910	MIN 4.9	CFSM 2.80	IN 37.90					

KANAWHA RIVER BASIN

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January to April 1980, December 1980 to September 1981.

SUSPENDED-SEDIMENT DISCHARGE: October 1979 to September 1980.

INSTRUMENTATION.--Automatic pumping sediment sampler since October 1979.

REMARKS.--Interruptions in the record due to instrument malfunctions.

EXTREMES FOR PERIOD OF RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 186 mg/L Mar. 25; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 900 tons (816 metric tons) Mar. 18; minimum daily, 0 ton (0 metric ton) on many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 88 micromhos Sept. 15; minimum recorded, 21 micromhos May 10, 24-26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS- PHATE, ORTHOPHOS- PHATE, DIS- SOLVED (UG/L AS P04)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDED RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	ARSENIC TOTAL RECOV- ERABLE (UG/L AS EA)	BARIUM, TOTAL DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
OCT 08...	--	--	--	--	--	--	--	--	--	--
DEC 09...	00	--	--	--	--	--	50	<0	--	<1
JAN 07...	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	--	--	--	50	<1	--	<1
APR 02...	--	--	--	--	--	--	50	<1	--	<1
JUN 02...	--	--	--	--	--	--	--	--	--	--
JUL 21...	--	--	--	--	1	2	<50	--	1	--
AUG 25...	--	80	60	20	--	1	--	2	1	4

DATE	CADMIUM RECOV- ERABLE FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV- ERABLE FM BOT- TOM MA- TERIAL (UG/G AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV- ERABLE FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV- ERABLE FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 08...	--	--	--	--	--	--	--	--	100	80	20
DEC 09...	--	--	--	<3	--	--	<10	--	90	70	17
JAN 07...	--	--	--	--	--	--	--	--	110	--	<10
FEB 24...	--	--	--	<3	--	--	<10	--	140	120	23
APR 02...	--	--	--	<3	--	--	<10	--	110	80	26
JUN 02...	--	--	--	--	--	--	--	--	270	240	30
JUL 21...	<1	10	<1	--	<10	2	--	<1	80	60	20
AUG 25...	<1	--	<10	3	<10	--	10	1	190	150	37

KANAWHA RIVER BASIN

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03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PH)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)
OCT 08...	--	--	--	--	--	10	5	5	--	--	--
DEC 09...	--	--	<10	--	<4	20	0	24	--	--	--
JAN 07...	--	--	--	--	--	20	10	10	--	--	--
FEB 24...	--	--	<10	--	<4	60	0	68	--	--	--
APR 02...	--	--	<10	--	<4	50	0	62	--	--	--
JUN 02...	--	--	--	--	--	40	10	30	--	--	--
JUL 21...	67	<1	--	<10	--	<10	--	8	87	<.1	<.01
AUG 25...	650	--	10	<10	5	10	0	13	160	--	<.01

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI, KF AGAR (COLS. PEK 100 ML)	HARD- NESS, AS (MG/L CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 08...	1030	13	25	6.4	9.0	10.1	--	--	7	5	.0	1.9
DEC 09...	0915	150	18	6.0	7.0	11.0	--	--	6	5	<.1	1.8
JAN 07...	1130	87	26	6.1	.0	13.2	--	--	8	6	.0	1.9
FEB 24...	1630	1040	32	5.0	2.5	--	--	--	8	8	.1	2.0
APR 02...	1230	527	30	4.9	5.5	9.7	--	--	8	7	.1	2.0
JUN 02...	1645	611	24	5.6	14.0	--	--	--	7	6	<.1	1.7
JUL 21...	1430	28	24	5.6	23.5	8.4	--	--	6	--	<.1	1.9
AUG 25...	1345	7.9	25	6.6	22.0	8.1	K2	32	7	5	<.1	1.8

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SC4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 08...	.6	.5	12	.1	.4	2	4.7	.9	.0	3.3	17
DEC 09...	.4	.5	--	.1	--	2	5.9	1.0	--	3.1	18
JAN 07...	.7	.4	--	.1	--	2	4.9	.8	--	--	16
FEB 24...	.6	.4	--	.1	--	0	4.8	.8	--	2.7	18
APR 02...	.6	.4	--	.1	--	1	4.7	.7	--	2.8	18
JUN 02...	.7	.3	--	.0	--	2	4.0	.5	--	--	18
JUL 21...	.4	.6	16	.1	.4	1	5.6	.5	<.1	3.3	34
AUG 25...	.5	.2	--	.0	--	3	3.8	.4	--	3.2	--

KANAWHA RIVER BASIN

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT 08...	13	.02	.60	--	--	--	--	--	--	--	--
DEC 09...	17	.02	7.2	.66	2.9	.000	.00	--	.66	--	.000
JAN 07...	--	.02	3.7	--	--	--	--	--	--	--	--
FEB 24...	16	.02	50.5	--	--	<.010	--	--	.92	--	<.010
APR 02...	16	.02	25.6	--	--	<.010	--	--	.99	--	<.010
JUN 02...	--	.02	30.0	--	--	--	--	--	--	--	--
JUL 21...	14	.05	2.5	--	--	--	--	.43	--	<.010	--
AUG 25...	13	.02	.28	--	--	<.010	--	--	.28	--	<.010

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SP)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
DEC 09...	<10	--	--	--	4	<6.0	--	10	--
FEB 24...	<10	--	--	--	9	<6.0	--	13	--
APR 02...	<10	--	--	--	10	<6.0	--	22	--
JUL 21...	--	<1	<1	2	--	--	10	--	5
AUG 25...	10	--	<1	--	9	6.0	--	4	21

KANAWHA RIVER BASIN

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03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	28	---	28	---	26	25	---	32	---
2			---	29	---	30	30	27	23	26	33	---
3			---	30	---	30	30	26	23	26	33	---
4			---	33	---	29	28	23	---	26	29	---
5			---	36	---	27	28	22	---	27	29	56
6			---	34	---	28	32	23	---	31	32	58
7			---	26	---	29	31	24	---	34	38	61
8			---	24	---	29	28	23	---	33	37	64
9			25	25	---	28	28	22	---	32	36	63
10			31	---	---	28	27	21	---	32	36	61
11			33	---	---	28	26	23	---	31	37	58
12			30	---	---	27	25	28	---	31	37	59
13			29	---	---	26	25	26	---	33	37	70
14			30	---	---	27	26	23	---	33	37	83
15			29	---	---	28	28	24	---	33	36	88
16			29	---	---	29	27	28	---	31	36	69
17			30	---	---	28	26	25	---	25	36	65
18			30	---	---	27	25	25	---	25	37	63
19			30	---	---	---	26	26	---	25	38	62
20			34	---	---	---	26	26	---	25	34	59
21			37	---	---	---	26	25	---	25	27	60
22			36	---	---	---	25	24	---	26	27	61
23			33	27	---	---	23	22	---	26	27	65
24			30	27	32	---	26	21	---	27	27	69
25			34	---	30	---	27	21	---	26	28	74
26			35	---	30	---	27	21	---	26	27	69
27			32	---	28	---	24	22	---	26	---	57
28			30	---	26	---	22	22	---	33	---	56
29			27	---	---	---	24	24	---	32	---	56
30			27	---	---	---	25	24	---	33	---	56
31			27	---	---	---	---	24	---	32	---	---
MEAN							27	24		29	33	64

KANAWHA RIVER BASIN

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued
 WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV						MAR					
18...	1300	162	--	2	.87	27...	1430	534	27	21	30
18...	1330	172	--	3	1.4	27...	1500	569	27	26	40
18...	1400	179	--	3	1.4	27...	1530	611	29	28	46
18...	1430	188	--	4	2.0	27...	1600	662	27	25	44
18...	1500	195	--	5	2.6	27...	1630	722	27	24	47
18...	1530	200	--	5	2.7	27...	1700	779	27	35	74
18...	1600	202	--	4	2.2	27...	1730	824	28	26	58
18...	1630	202	--	4	2.2	27...	1800	863	29	39	91
18...	1700	202	--	2	1.1	27...	1830	886	28	28	67
18...	1730	202	--	2	1.1	27...	1900	902	28	26	63
18...	1800	200	--	2	1.1	27...	1930	918	28	22	54
18...	1830	200	--	1	.00	27...	2000	927	29	23	58
18...	1900	197	--	2	1.1	27...	2030	935	29	24	60
18...	1930	195	--	2	1.0	27...	2100	944	30	25	64
18...	2000	195	--	2	1.0	27...	2130	944	28	17	43
18...	2030	192	--	1	.52	27...	2200	944	28	13	33
18...	2100	190	--	1	.51	27...	2230	944	28	15	38
18...	2130	188	--	0	.00	27...	2300	935	29	12	30
18...	2200	186	--	0	.00	27...	2330	935	29	9	23
18...	2230	183	--	0	.00	27...	2400	927	29	13	32
18...	2300	181	--	1	.48	28...	0030	918	29	13	32
18...	2330	179	--	1	.48	28...	0100	911	29	12	30
FEB						APR					
27...	1200	275	28	9	6.7	05...	1100	460	27	5	6.0
27...	1230	272	28	3	2.2	05...	1130	486	27	5	7.0
27...	1300	269	28	0	.00	05...	1200	512	27	7	10
27...	1330	266	28	1	.72	05...	1230	540	27	6	9.0
27...	1400	263	28	1	.71	05...	1300	575	27	7	11
27...	1430	263	28	1	.71	05...	1330	605	27	8	13
27...	1500	263	28	1	.71	05...	1400	630	27	9	15
27...	1530	263	28	1	.71	05...	1430	649	27	11	19
27...	1600	263	28	0	.00	05...	1500	662	27	9	16
27...	1630	263	28	1	.71	05...	1530	668	27	8	14
27...	1700	263	28	0	.00	05...	1600	668	27	7	13
27...	1730	263	27	0	.00	05...	1630	668	27	7	13
28...	2000	272	27	1	.73	05...	1700	662	28	6	11
28...	2030	281	27	0	.00	05...	1730	655	28	4	7.0
28...	2100	297	27	1	.80	05...	1800	649	29	5	9.0
28...	2130	313	26	1	.84	05...	1830	642	29	4	7.0
28...	2200	334	27	3	2.7	05...	1900	636	29	8	14
28...	2230	362	26	5	4.9	05...	1930	624	29	6	10
28...	2300	396	26	6	6.4	05...	2000	611	28	6	10
28...	2330	436	26	6	7.1	05...	2030	605	29	4	6.0
28...	2400	496	26	17	23	05...	2100	599	28	5	8.0
MAR						05...	2200	580	29	3	5.0
01...	0030	580	26	22	34	05...	2230	569	29	6	9.0
01...	0100	702	27	33	62	17...	1400	445	26	14	17
01...	0130	839	27	35	79	17...	1430	490	25	20	26
27...	1330	450	28	29	35	17...	1500	729	25	43	85
27...	1400	496	28	33	44	17...	1530	1100	25	70	210

KANAWHA RIVER BASIN

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03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
APR						MAY					
17...	1600	1250	25	69	230	29...	0030	1100	27	409	234
17...	1630	1310	25	78	276	29...	0100	4260	28	393	4520
17...	1700	1320	25	64	228	29...	0130	4060	28	270	2960
17...	1730	1300	26	53	186	29...	0200	3840	27	277	2870
17...	1800	1260	26	62	211	29...	0230	3660	27	237	2340
17...	1830	1210	27	51	167	29...	0300	3520	27	314	2980
17...	1900	1170	27	46	145	29...	0330	3380	27	232	2120
17...	1930	1130	27	32	98	29...	0400	3240	27	225	1970
17...	2000	1090	28	30	88	29...	0430	3120	27	203	1710
17...	2030	1070	28	25	72	29...	0500	3000	27	203	1650
17...	2100	1040	28	23	64	29...	0530	2890	27	169	1320
17...	2130	1010	28	22	60	29...	0600	2800	27	152	1150
17...	2200	978	28	19	51	29...	0630	2700	27	200	1460
17...	2230	952	28	24	62	29...	0700	2610	27	354	2490
17...	2300	927	28	15	37	29...	0730	2530	26	177	1210
17...	2330	911	29	17	42	29...	0800	2450	26	216	1430
17...	2400	902	28	11	27	29...	0830	2370	27	153	979
18...	0030	886	28	13	31	29...	0900	2290	27	118	729
18...	0100	878	28	10	24	29...	0930	2220	27	125	749
18...	0130	870	28	8	19	29...	1000	2170	27	112	656
MAY						29...	1030	2090	27	122	688
11...	0830	455	27	36	44	29...	1300	1800	26	118	573
11...	0900	1800	25	193	938	29...	1330	1760	26	128	608
11...	0930	1970	26	237	1260	29...	1400	1710	26	360	1660
11...	1000	2040	27	201	1110	29...	1430	1660	26	212	950
11...	1030	2010	27	191	1040	29...	1500	1610	26	139	604
11...	1100	1940	28	170	890	29...	1530	1570	26	161	682
11...	1130	1860	28	125	628	29...	1600	1520	26	127	521
11...	1200	1770	30	99	473	29...	1630	1480	26	123	492
11...	1230	1690	29	80	365	29...	1700	1450	26	72	282
11...	1300	1600	30	78	337	29...	1730	1410	26	125	476
11...	1330	1520	30	60	246	29...	1800	1370	26	68	252
11...	1400	1440	31	43	167	29...	1830	1340	26	69	250
11...	1430	1380	30	39	145	29...	1900	1310	26	72	255
11...	1500	1340	29	43	156	29...	1930	1270	26	81	278
11...	1530	1290	29	40	139	29...	2000	1250	26	84	284
11...	1600	1250	29	31	105	29...	2030	1230	26	58	193
11...	1630	1210	29	31	101	29...	2100	1210	25	48	156
11...	1700	1190	29	27	86	29...	2130	1190	25	52	167
11...	1730	1180	28	26	83	29...	2200	1180	25	73	232
11...	1800	1190	30	19	61	29...	2230	1170	25	76	240
11...	1830	1190	29	22	71	29...	2300	1160	25	68	213
11...	1900	1200	28	21	68	29...	2330	1140	25	62	191
11...	2000	1190	28	18	58	29...	2400	1130	25	69	210
28...	0900	502	24	30	41	30...	0030	1100	25	79	235
28...	0930	695	23	46	86	JUN					
28...	1000	847	23	45	103	03...	2300	440	24	92	109
28...	1030	995	24	58	156	03...	2330	455	24	28	34
28...	1100	1230	24	60	199	03...	2400	475	24	28	36
28...	1130	1420	22	79	303	04...	0030	491	24	20	26
28...	1200	1550	22	82	343	04...	0100	507	24	16	22
28...	1230	1640	24	87	385	04...	0130	529	23	15	21
28...	1300	1690	24	81	370	04...	0200	552	23	17	25
28...	1330	1730	24	80	374	04...	0230	569	23	17	26
28...	1400	1800	24	89	432	04...	0300	587	23	21	33
28...	1430	1850	26	105	524	04...	0330	611	23	17	28
28...	1500	1940	24	97	508	04...	0400	642	23	27	47
28...	1530	2020	26	91	496	04...	0430	668	23	22	40
28...	1600	2100	25	102	578	04...	0500	688	23	32	59
28...	1630	2210	25	144	859	04...	0530	708	23	35	67
28...	1700	2320	25	159	996	04...	0600	729	23	33	65
28...	1730	2520	25	198	1350	04...	0630	750	23	23	46
28...	1800	2850	25	310	2390	04...	0700	765	23	26	47
28...	1830	3270	25	565	4990	04...	0730	779	23	24	48
28...	1900	3710	28	429	4300	04...	0800	787	23	25	53
28...	1930	4150	28	61	3130	04...	0830	801	23	26	56
28...	2000	4550	28	105	1290	04...	0900	801	23	28	60
28...	2030	4990	31	26	315	04...	0930	809	23	24	52
28...	2300	5445	28	577	8480	04...	1000	809	23	21	46
28...	2330	5030	28	408	5540	04...	1030	809	23	21	46
28...	2400	4810	28	602	7820						

KANAWHA RIVER BASIN

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
JUN						JUN					
04...	2000	702	24	20	38	10...	0300	715	27	252	486
04...	2030	695	24	17	32	10...	0330	1770	30	409	1960
04...	2100	695	22	17	32	10...	0400	2330	24	2520	15850
04...	2130	688	22	16	30	10...	0430	2540	24	2410	16530
04...	2200	682	22	15	28	10...	1030	4130	26	860	9590
04...	2230	675	22	20	36	10...	1100	3880	26	696	7290
04...	2300	675	22	18	32	10...	1130	3650	26	761	7500
04...	2330	668	22	18	32	10...	1200	3460	26	666	6220
04...	2400	662	22	18	32	10...	1230	3280	26	411	3640
05...	0030	662	22	13	23	10...	1300	3100	25	374	3130
05...	0100	655	22	18	33	10...	1330	2970	25	399	3200
05...	0130	655	22	13	23	10...	1400	2820	25	313	2380
05...	0200	655	22	18	32	10...	1430	2700	25	273	1990
05...	0230	655	22	19	34	10...	1500	2580	25	304	2120
05...	0300	655	22	13	23	10...	1530	2490	25	645	4340
05...	0330	655	22	13	23	10...	1600	2400	25	290	1880
05...	0400	655	23	10	18	10...	1630	2310	25	340	2120
05...	0430	655	23	12	21	10...	1700	2240	25	256	1550
05...	0500	655	22	10	18	10...	1730	2170	25	352	2060
05...	0530	655	22	15	26	10...	1800	2100	25	273	1550
05...	0600	655	22	12	21	10...	1830	2050	24	284	1570
05...	0630	655	22	11	19	10...	1900	1970	24	233	1240
05...	0700	649	22	14	25	10...	1930	1910	24	228	1170
05...	1830	534	23	14	20	10...	2000	1850	24	216	1080
05...	1900	523	22	8	11	SEP					
05...	1930	518	22	4	6.0	04...	1030	470	31	85	108
05...	2000	512	22	6	8.0	04...	1100	630	29	161	274
05...	2030	507	22	4	5.0	04...	1130	1630	33	446	1960
05...	2100	502	22	6	8.0	04...	1200	1920	35	430	2230
05...	2130	496	21	4	5.0	04...	1230	1950	38	415	2190
05...	2200	496	22	4	5.0	04...	1300	1890	39	369	1880
05...	2230	496	23	6	8.0	04...	1330	1790	40	324	1570
05...	2300	491	23	5	7.0	04...	1400	1720	42	249	1160
05...	2330	491	23	5	7.0	04...	1430	1640	44	188	832
05...	2400	486	23	4	5.0	04...	1500	1550	44	165	691
06...	0030	480	23	3	4.0	04...	1530	1460	44	143	564
06...	0100	475	23	3	4.0	04...	1600	1370	45	116	429
06...	0130	470	23	3	4.0	04...	1630	1310	48	113	400
06...	0200	465	23	4	5.0	04...	1700	1260	47	99	337
06...	0230	465	23	3	4.0	04...	1730	1230	47	79	262
06...	0300	460	23	2	2.0	04...	1800	1220	47	77	254
06...	0330	455	23	3	4.0	04...	1830	1200	47	77	249
06...	0400	455	23	2	2.0	04...	1900	1190	47	60	193
06...	0430	450	23	4	5.0	04...	1930	1170	48	55	174
06...	0500	455	23	3	4.0	04...	2000	1150	46	56	174
06...	0530	465	24	4	5.0	04...	2030	1130	51	49	149
06...	0600	507	24	6	8.0	04...	2100	1100	49	49	146
10...	0230	475	30	74	94	04...	2130	1080	46	49	143

KANAWHA RIVER BASIN

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3189000 CHERRY RIVER AT FENWICK, WV

LOCATION.--Lat 38°13'45", long 80°35'00", Nicholas County, Hydrologic Unit 05050005, on left bank at downstream side of highway bridge at Fenwick, 1,000 ft (305 m) downstream from Laurel Creek, and at mile 6.4 (10.3 km).

DRAINAGE AREA.--150 mi² (388 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1929 to September 1969, October 1979 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 973: 1940-42. WSP 1275: 1930-31(M), 1932, 1933-34(M), 1936-39.

GAGE.--Water-stage recorder. Datum of gage is 2,088.94 ft (636.709 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for October, November, December, January, and February, which are poor.

AVERAGE DISCHARGE.--42 years (water years 1930-69, 1980-81), 410 ft³/s (11.61 m³/s), 37.12 in/yr (943 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,000 ft³/s (1,050 m³/s) July 19, 1954, gage height, 19.80 ft (6.035 m), from floodmarks, from rating curve extended above 19,000 ft³/s (540 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 0.1 ft³/s (0.003 m³/s) Sept. 30, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (140 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 24	1330	5220 148	7.75 2.362	Feb. 23	1200	6380 181	8.49 2.588
Feb. 21	0130	5340 151	7.79 2.374	May 28	2230	*17400 493	13.18 4.017

Minimum discharge, 12 ft³/s (0.34 m³/s) Sept. 1; minimum gage height, 0.73 ft (0.223 m) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	98	298	200	170	1600	1110	361	1390	289	105	15
2	21	84	456	185	890	1050	1050	329	1390	174	78	16
3	22	72	724	160	740	754	760	278	1060	122	77	62
4	31	67	518	120	520	575	585	238	1590	107	84	2470
5	34	68	429	100	350	804	966	209	1830	91	62	1110
6	26	60	367	120	280	888	912	212	1350	655	96	530
7	22	52	314	180	240	683	688	281	1390	491	271	464
8	21	49	274	150	200	510	530	217	918	274	159	396
9	19	49	343	120	180	401	525	184	645	192	112	482
10	19	53	665	100	170	321	732	166	1180	156	82	271
11	19	45	522	110	2400	267	590	2250	1140	152	67	179
12	16	41	433	125	1500	226	525	1830	710	105	101	131
13	15	38	370	100	1100	217	876	1180	595	99	85	103
14	14	38	304	88	800	223	870	809	661	149	61	84
15	16	39	259	81	580	187	1230	1310	455	99	54	131
16	17	42	237	74	420	264	831	1070	321	75	253	313
17	14	47	208	66	620	235	1480	826	253	70	127	212
18	14	175	175	67	1000	241	1490	672	195	57	81	142
19	14	190	150	67	1810	209	1010	1890	147	49	61	122
20	16	139	100	60	2660	182	820	2430	174	52	49	118
21	16	123	71	62	3880	171	620	1320	152	52	40	90
22	15	108	105	68	1940	149	478	864	144	44	33	73
23	15	99	143	72	3500	149	432	595	159	35	28	66
24	15	2130	163	76	2080	161	815	419	105	31	24	58
25	190	1490	213	92	1200	253	754	301	87	40	21	51
26	90	798	180	160	859	441	688	232	159	37	20	45
27	100	569	150	300	630	1380	560	192	107	43	18	39
28	150	468	160	390	605	1590	446	4280	77	60	21	36
29	260	388	208	340	---	1390	374	5990	62	788	19	32
30	150	314	221	240	---	1820	361	1800	56	387	15	30
31	120	---	205	200	---	1250	---	1720	---	171	13	---
TOTAL	1513	7933	8965	4273	31324	18591	23108	34455	18502	5146	2317	7871
MEAN	48.8	264	289	138	1119	600	770	1111	617	166	74.7	262
MAX	260	2130	724	390	3880	1820	1490	5990	1830	788	271	2470
MIN	14	38	71	60	170	149	361	166	56	31	13	15
CFSM	.33	1.76	1.93	.92	7.46	4.00	5.13	7.41	4.11	1.11	.50	1.75
IN.	.38	1.97	2.22	1.06	7.77	4.61	5.73	8.54	4.59	1.28	.57	1.95
CAL YR 1980	TOTAL	151103	MEAN 413	MAX 3710	MIN 14	CFSM 2.75	IN 37.47					
WTR YR 1981	TOTAL	163998	MEAN 449	MAX 5990	MIN 13	CFSM 2.99	IN 40.67					

KANAWHA RIVER BASIN

03189000 CHERRY RIVER AT FENWICK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT										
10...	0930	18	118	6.9	13.0	9.2	--	--	36	28
NOV										
14...	0900	36	75	7.0	4.0	12.4	--	--	23	16
JAN										
22...	1230	69	74	6.9	.0	13.2	--	--	20	14
FEB										
18...	1815	1410	42	6.6	6.5	10.6	240	250	10	8
APR										
01...	1730	1310	52	6.7	9.0	9.8	K3700	1500	15	12
24...	1130	764	42	6.7	9.5	--	--	--	--	--
JUN										
04...	1445	1410	36	6.8	15.0	--	--	--	11	8
JUL										
16...	0930	76	65	7.0	19.5	--	--	--	--	--
23...	0725	35	95	7.2	20.0	--	--	--	27	--
AUG										
25...	1420	21	112	7.6	23.5	7.9	K16	240	33	20

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT										
10...	.0	8.3	3.7	5.7	25	.4	1.4	8	36	4.2
NOV										
14...	.0	5.4	2.2	2.8	--	.3	--	7	16	2.8
JAN										
22...	<.1	4.7	1.9	3.3	--	.4	--	6	14	5.0
FEB										
18...	<.1	2.3	1.1	1.0	--	.2	--	2	6.5	1.7
APR										
01...	.1	3.5	1.4	1.6	--	.2	--	3	8.4	1.8
24...	--	--	--	--	--	--	--	--	--	--
JUN										
04...	<.1	2.7	1.1	.7	--	.1	--	3	6.3	1.1
JUL										
16...	--	--	--	--	--	--	--	--	--	--
23...	--	6.5	2.5	4.7	--	.4	--	12	25	2.7
AUG										
25...	.0	8.0	3.2	4.6	--	.4	--	13	29	3.4

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT										
10...	.0	2.8	67	67	.09	3.2	--	--	--	--
NOV										
14...	--	--	46	--	.06	4.4	--	--	--	--
JAN										
22...	--	3.2	35	36	.05	6.5	--	--	--	--
FEB										
18...	--	2.8	26	21	.04	99.0	<.010	1.0	.030	<.010
APR										
01...	--	3.1	25	26	.03	88.4	<.010	.94	.050	<.010
24...	--	--	--	--	--	--	--	--	--	--
JUN										
04...	--	--	23	--	.03	87.6	--	--	--	--
JUL										
16...	--	--	--	--	--	--	--	--	--	--
23...	--	--	69	--	.09	6.5	--	--	--	--
AUG										
25...	--	3.3	--	58	.08	3.2	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

KANAWHA RIVER BASIN

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03189000 CHERRY RIVER AT FENWICK, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	--	--	--	--	--	--	--	--	--	--	--
JAN 22...	--	--	--	--	40	<1	2	--	--	<3	--
FEB 18...	--	--	--	--	40	<1	<1	--	--	<3	--
APR 01...	--	--	--	--	50	<1	<1	--	--	<3	--
JUN 04...	--	--	--	--	--	--	--	--	--	--	--
JUL 23...	--	--	--	--	--	--	--	--	--	--	--
AUG 25...	120	60	60	0	40	<1	3	<1	<10	3	10

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT 10...	--	--	390	230	160	--	--	--	--	240
NOV 14...	--	--	330	160	170	--	--	--	--	130
JAN 22...	<10	--	310	180	130	--	<10	--	4	100
FEB 18...	<10	--	680	660	22	--	<10	--	<4	40
APR 01...	<10	--	880	850	27	--	<10	--	<4	70
JUN 04...	--	--	560	520	40	--	--	--	--	50
JUL 23...	--	--	300	220	80	--	--	--	--	120
AUG 25...	10	4	360	280	85	3100	14	10	8	180

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
OCT 10...	20	220	--	--	--	--	--	--	--	--
NOV 14...	0	140	--	--	--	--	--	--	--	--
JAN 22...	9	91	--	--	<10	--	30	<6.0	7	--
FEB 18...	0	43	--	--	11	--	15	<6.0	10	--
APR 01...	10	58	--	--	<10	--	19	<6.0	10	--
JUN 04...	20	30	--	--	--	--	--	--	--	--
JUL 23...	10	110	--	--	--	--	--	--	--	--
AUG 25...	20	160	490	<.01	<10	<1	46	<6.0	10	34

KANAWHA RIVER BASIN

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV

LOCATION.--Lat 38°17'30", long 80°38'30", Nicholas County, Hydrologic Unit 05050005, on right bank at downstream side of highway bridge on State Highway 20, 200 ft (61 m) downstream from Cherry River, 1.8 mi (2.9 km) downstream from Cranberry River, 2.7 mi (4.3 km) south of Craigsville, and at mile 60.0 (96.5 km).

DRAINAGE AREA.--528 mi² (1,368 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,870.00 ft (569.976 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for December, January, and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--17 years, 1,470 ft³/s (41.63 m³/s), 37.81 in/yr (960 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,700 ft³/s (1,150 m³/s) Mar. 7, 1967, gage height, 22.73 ft (6.928 m); minimum, 13 ft³/s (0.37 m³/s) Sept. 27, 1967, gage height, 8.62 ft (2.627 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 12,000 ft³/s (340 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	0545	13000	368	June 10	1130	32100	909
May 29	0115	*33400	946			20.81	6.343
			21.09				

Minimum discharge, 31 ft³/s (0.88 m³/s) Sept. 1, 2, gage height, 8.78 ft (2.676 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	384	880	590	700	4440	3460	1280	3970	515	412	32
2	113	325	1140	540	2750	3310	3700	1360	3520	529	313	39
3	113	281	2350	440	2410	2350	2560	1190	2890	441	422	73
4	131	250	1800	340	1590	1780	1990	1020	4440	360	698	2900
5	156	260	1440	300	1100	1980	2430	870	4490	382	436	2590
6	143	260	1190	420	900	2560	2890	824	5560	1760	434	991
7	116	230	1010	580	740	2070	2220	1020	5300	1770	1730	788
8	106	212	880	470	600	1620	1760	890	3080	1070	1140	649
9	92	199	890	330	540	1330	1570	770	2130	719	764	980
10	88	212	1900	290	500	1080	2040	698	13900	573	529	657
11	82	240	1650	300	4370	950	1720	3760	5900	513	398	440
12	76	216	1350	340	3990	824	1520	5080	2870	396	393	337
13	73	199	1140	300	2510	770	1740	3360	2140	354	415	279
14	67	191	940	260	1920	762	1560	2320	2070	455	305	235
15	62	173	779	230	1520	698	2050	3160	1480	386	254	321
16	59	178	714	210	1390	851	1600	3170	1040	302	434	864
17	59	191	634	195	1980	890	2780	2460	818	274	343	807
18	56	824	523	190	3360	930	4650	1970	646	243	254	511
19	56	1070	420	190	4720	842	2870	4740	501	196	198	422
20	54	730	330	180	6310	746	2350	6410	574	186	158	428
21	54	602	250	175	10800	706	1990	3910	622	227	130	358
22	54	509	290	190	5970	618	1570	2490	836	201	104	293
23	54	446	350	210	8040	634	1340	1760	827	158	88	252
24	51	4950	467	220	6520	658	1760	1280	574	133	75	222
25	92	5660	578	265	3620	940	1760	980	448	188	64	195
26	706	2870	510	666	2540	1460	1670	788	574	221	58	174
27	418	1970	460	1320	1910	3210	1460	666	536	173	52	155
28	303	1540	420	1730	1640	5390	1230	5870	382	461	48	136
29	642	1270	570	1530	---	3990	1080	15800	309	2030	48	120
30	650	1030	630	1240	---	5560	1130	5270	267	1220	40	110
31	481	---	600	790	---	4580	---	5150	---	656	35	---
TOTAL	5335	27472	27085	15031	84940	58529	62450	90316	72694	17092	10772	16358
MEAN	172	916	874	485	3034	1888	2082	2913	2423	551	347	545
MAX	706	5660	2350	1730	10800	5560	4650	15800	13900	2030	1730	2900
MIN	51	173	250	175	500	618	1080	666	267	133	35	32
CFSM	.33	1.74	1.66	.92	5.75	3.58	3.94	5.52	4.59	1.04	.66	1.03
IN.	.38	1.94	1.91	1.06	5.98	4.12	4.40	6.36	5.12	1.20	.76	1.15

CAL YR 1980	TOTAL	462739	MEAN	1264	MAX	9050	MIN	51	CFSM	2.39	IN	32.60
WTR YR 1981	TOTAL	488074	MEAN	1337	MAX	15800	MIN	32	CFSM	2.53	IN	34.39

KANAWHA RIVER BASIN

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03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV--Continued

PERIOD OF RECORD.--Water years 1968-1973, 1975-1977, 1979 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1974 to April 1977, November 1980 to September 1981.

INSTRUMENTATION.--Temperature recorder November 1974 to April 1977, November 1980 to September 1981.

REMARKS.--Interruptions in the record were due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 31.0°C Aug. 1, 2, 1975; minimum, 0.0°C on many days in 1981.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 28.5°C July 25, 27; minimum recorded, 0.0°C many days in December and January.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
09...	1130	--	41	6.0	14.0	7.7	11	26	--	--	--
17...	1015	57	76	7.0	11.8	9.8	--	--	--	24	14
NOV											
06...	1020	--	28	5.8	7.0	9.1	--	18	--	--	--
DEC											
04...	0815	1750	30	6.9	1.5	13.2	--	--	--	11	8
11...	1000	--	21	5.4	5.4	--	3	--	--	--	--
JAN											
08...	1055	5220	48	5.9	.0	13.0	--	--	--	13	10
08...	1100	5220	48	5.9	.0	13.0	<10	34	--	--	--
FEB											
10...	1730	606	--	--	--	--	--	--	--	--	--
11...	1100	3370	--	--	--	--	--	--	--	--	--
23...	1500	10630	--	--	--	--	--	--	--	--	--
25...	1000	3560	37	5.9	3.5	--	--	18	10	11	10
25...	1010	3560	37	5.9	3.5	--	<10	18	10	--	--
MAR											
19...	1645	842	49	7.2	.5	11.7	13	7	--	--	--
APR											
21...	1320	1870	--	--	--	--	--	--	--	--	--
21...	1500	1800	39	6.5	10.5	10.8	<10	K5	28	--	--
21...	1505	1800	39	6.5	10.5	10.8	--	K5	28	12	8
MAY											
14...	0900	2340	35	5.9	11.0	10.0	--	144	--	9	7
14...	0905	2340	35	5.9	11.0	10.0	<10	144	--	--	--
28...	1400	3120	--	--	--	--	--	--	--	--	--
29...	1000	15200	--	--	--	--	--	--	--	--	--
29...	1335	11450	--	--	--	--	--	--	--	--	--
JUN											
12...	0900	3180	36	6.3	15.0	9.9	<10	107	--	11	7
JUL											
08...	0830	1080	37	6.7	19.0	9.3	<10	143	--	--	--
21...	1615	244	58	6.8	22.0	--	--	--	--	18	--
AUG											
14...	1000	--	52	7.2	20.0	7.5	--	61	--	--	--
25...	1930	62	68	7.6	25.0	7.7	--	K7	21	18	90
SEP											
01...	0900	31	87	6.9	22.5	7.0	<10	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

KANAWHA RIVER BASIN

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 17...	.0	5.9	2.2	4.2	27	.4	.9	10	16	3.8	.0	1.6
DEC 04...	<.1	2.6	1.0	1.0	--	.1	--	3	6.1	1.0	--	3.3
JAN 08...	<.1	2.9	1.3	1.5	--	.2	--	3	8.0	2.0	--	--
08...	<.1	--	--	--	--	--	--	3	--	--	--	--
FEB 25...	<.1	2.7	1.0	.8	--	.1	--	2	6.2	1.1	--	3.1
25...	<.1	--	--	--	--	--	--	1	--	--	--	--
APR 21...	<.1	--	--	--	--	--	--	4	--	--	--	--
21...	<.1	3.0	1.1	1.2	--	.2	--	4	7.7	1.7	--	3.3
MAY 14...	<.1	2.3	.9	.8	--	.1	--	2	6.5	1.2	--	--
14...	<.1	--	--	--	--	--	--	2	--	--	--	--
JUN 12...	<.1	2.8	.9	.8	--	.1	--	4	6.8	.8	--	--
JUL 21...	--	4.7	1.5	2.1	--	.2	--	8	9.9	1.0	--	--
AUG 25...	.0	4.8	1.5	2.0	--	.2	--	11	12	2.5	--	2.2

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WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

KANAWHA RIVER BASIN

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)
OCT												
09...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	800	710	90	--	--	--	--	30	10
DEC												
04...	--	<10	--	200	160	36	--	<10	--	<4	40	9
11...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
08...	--	--	--	120	100	20	--	--	--	--	20	0
08...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
25...	--	<10	--	780	770	9	--	<10	--	<4	60	20
25...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
19...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
21...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	<10	--	250	230	25	--	<10	--	<4	40	10
MAY												
14...	--	--	--	300	280	20	--	--	--	--	30	10
14...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
12...	--	--	--	490	470	20	--	--	--	--	60	30
JUL												
08...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	170	90	80	--	--	--	--	30	--
AUG												
14...	--	--	--	--	--	--	--	--	--	--	--	--
25...	<10	10	2	230	180	53	700	10	<10	7	10	0
SEP												
01...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
OCT												
09...	--	--	--	--	2	--	0	--	--	20	--	--
17...	20	--	--	--	--	--	--	--	--	--	--	--
DEC												
04...	31	--	--	<10	--	--	--	13	<6.0	--	5	--
11...	--	--	--	--	3	--	0	--	--	20	--	--
JAN												
08...	30	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	3	--	2	--	--	20	--	--
FEB												
25...	37	--	--	<10	--	--	--	14	<6.0	--	5	--
25...	--	--	--	--	6	--	0	--	--	50	--	--
MAR												
19...	--	--	--	--	5	--	0	--	--	40	--	--
APR												
21...	--	--	--	--	5	--	0	--	--	20	--	--
21...	29	--	--	<10	--	--	--	17	<6.0	--	<4	--
MAY												
14...	20	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	9	--	0	--	--	20	--	--
JUN												
12...	30	--	--	--	5	--	0	--	--	30	--	--
JUL												
08...	--	--	--	--	5	--	0	--	--	20	--	--
21...	<10	--	--	--	--	--	--	--	--	--	--	--
AUG												
14...	--	--	--	--	7	--	<1	--	--	10	--	--
25...	12	200	<.01	10	--	<1	--	26	6.0	--	4	22
SEP												
01...	--	--	--	--	3	--	<1	--	--	20	--	--

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			---	---	---	---	.0	.0	---	---	5.5	5.0
2			---	---	---	---	.0	.0	---	---	5.0	4.0
3			---	---	---	---	.0	.0	---	---	4.0	3.0
4			---	---	---	---	.0	.0	---	---	3.0	2.5
5			7.0	6.5	3.0	2.0	.0	.0	---	---	3.0	2.5
6			6.5	5.0	4.5	3.0	.0	.0	---	---	3.0	3.0
7			6.5	5.0	5.5	4.5	.0	.0	---	---	3.0	2.5
8			9.0	6.5	6.5	5.5	.0	.0	---	---	2.5	2.0
9			9.0	8.0	7.5	6.5	.0	.0	---	---	2.0	2.0
10			8.5	6.5	7.5	6.0	.0	.0	---	---	2.5	2.0
11			6.5	4.5	6.0	3.5	.0	.0	1.0	1.0	3.0	2.5
12			---	---	3.5	3.0	.0	.0	1.0	1.0	4.5	2.5
13			---	---	3.0	3.0	---	---	1.0	1.0	5.0	3.5
14			---	---	3.0	2.5	---	---	1.0	1.0	5.0	3.5
15			---	---	2.5	2.0	---	---	1.5	1.0	5.5	3.0
16			---	---	2.0	2.0	---	---	2.0	1.0	5.0	3.0
17			---	---	2.0	1.0	---	---	2.0	1.5	3.0	2.0
18			---	---	1.0	1.0	---	---	3.5	1.5	1.5	1.0
19			---	---	1.5	1.0	---	---	4.5	3.5	1.0	1.0
20			---	---	1.0	.0	---	---	4.5	4.5	1.0	1.0
21			---	---	.0	.0	---	---	4.5	4.5	1.5	1.0
22			---	---	.0	.0	---	---	5.5	4.5	1.5	1.0
23			---	---	.0	.0	---	---	6.0	5.0	4.5	1.5
24			---	---	.0	.0	---	---	5.0	4.0	5.0	2.0
25			---	---	.0	.0	---	---	4.5	4.0	7.0	4.5
26			---	---	.0	.0	---	---	4.5	3.5	6.0	5.0
27			---	---	.0	.0	---	---	4.0	3.0	6.0	5.0
28			---	---	.0	.0	---	---	6.0	4.0	5.5	4.0
29			---	---	.0	.0	---	---	---	---	7.0	5.5
30			---	---	.0	.0	---	---	---	---	7.0	7.0
31			---	---	.0	.0	---	---	---	---	7.5	6.0
MONTH			9.0	4.5	7.5	.0	.0	.0	6.0	1.0	7.5	1.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	7.5	14.0	11.5	15.0	13.0	21.5	20.0	24.0	19.5	27.0	20.5
2	8.5	7.0	11.0	10.0	15.0	14.0	20.5	19.5	23.0	21.0	27.5	23.5
3	9.5	7.5	12.5	9.0	17.0	14.5	21.5	20.0	23.0	21.0	27.0	23.5
4	11.0	9.5	14.5	11.0	16.0	15.0	23.0	20.5	23.5	21.5	23.5	17.5
5	11.5	10.0	15.5	13.0	15.0	14.5	22.0	20.5	25.0	22.0	20.0	18.5
6	9.5	7.5	15.5	13.5	16.5	14.5	20.5	19.0	24.5	22.0	20.5	19.0
7	8.0	6.0	15.0	11.0	15.5	14.5	20.0	18.0	22.0	19.5	21.0	18.5
8	10.5	7.5	15.5	12.0	16.5	15.0	22.0	19.5	21.0	19.0	20.5	19.0
9	11.5	10.0	16.0	13.0	17.0	16.0	23.5	21.0	22.5	20.0	18.5	17.0
10	10.0	9.0	16.5	14.5	17.0	15.0	24.5	22.5	24.0	20.5	18.5	16.0
11	12.0	10.0	15.5	12.5	16.0	14.5	25.5	22.0	24.0	21.5	19.5	16.5
12	12.5	11.5	12.5	10.0	16.5	15.5	27.0	23.0	24.0	21.5	21.0	18.0
13	14.5	12.0	11.5	9.0	19.5	16.5	26.0	23.0	23.0	21.0	22.5	18.5
14	14.0	13.0	14.5	11.5	19.0	17.5	25.5	23.0	23.5	20.5	22.0	19.0
15	13.0	11.0	14.5	12.0	21.0	18.5	26.0	22.5	23.5	21.5	20.5	19.5
16	12.0	9.5	11.5	10.5	23.0	20.0	25.5	22.5	24.0	21.0	19.5	18.0
17	11.5	10.5	12.5	10.0	22.5	21.0	27.0	23.5	24.0	21.5	18.0	16.5
18	12.0	10.0	12.5	12.0	23.5	19.5	27.5	24.0	24.0	20.0	16.5	14.5
19	12.0	11.0	12.0	10.5	22.5	20.5	27.5	25.0	23.5	20.0	15.0	12.5
20	11.5	10.0	10.5	10.0	22.0	20.5	27.5	25.5	24.5	19.5	15.5	13.0
21	10.5	8.5	12.0	10.0	22.0	20.0	26.5	23.0	23.0	20.0	17.5	14.5
22	10.0	9.5	14.0	11.5	21.5	20.0	27.0	25.0	25.0	19.5	17.0	15.5
23	13.5	10.0	15.5	13.0	21.5	19.0	26.5	23.0	25.0	20.0	16.0	14.5
24	12.0	8.5	17.5	14.0	23.5	19.0	26.5	22.0	24.0	20.0	16.0	13.5
25	9.0	8.5	18.0	16.0	23.0	19.5	28.5	24.0	26.0	21.5	16.0	13.0
26	9.5	8.0	18.5	16.5	22.0	20.5	27.5	25.5	26.0	21.0	18.0	14.5
27	12.5	9.5	18.5	17.5	23.0	18.5	28.5	23.5	---	---	17.5	16.0
28	15.5	12.0	18.0	13.0	23.0	19.0	27.0	23.0	---	---	18.0	15.5
29	15.5	14.5	13.0	12.5	23.5	20.0	24.0	19.5	---	---	17.5	14.0
30	15.0	12.5	14.0	12.5	23.0	21.0	26.5	18.0	---	---	17.0	15.0
31	---	---	14.0	13.5	---	---	22.0	19.0	---	---	---	---
MONTH	15.5	6.0	18.5	9.0	23.5	13.0	28.5	18.0	26.0	19.0	27.5	12.5
YEAR	28.5	.0										

KANAWHA RIVER BASIN

03189590 SUMMERSVILLE LAKE NEAR SUMMERSVILLE, WV

LOCATION.--Lat 38°13'20", long 80°53'35", Nicholas County, Hydrologic Unit 05050005, at Summersville Dam on Gauley River, 4.6 mi (7.4 km) southwest of Summersville, and at mile 34.5 (55.5 km).

DRAINAGE AREA.--803 mi² (2,080 km²).

PERIOD OF RECORD.--May 1965 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rockfill dam with impervious core, completed in 1971; closure of dam was made and storage began in May 1965. Spillway is uncontrolled saddle spillway 1,250 ft (381.0 m) long. Flow is controlled by three 9 ft (2.7 m) and one 2.5 ft (0.76 m) diameter Howell-Bunger fixed-cone dispersion valves. Total level-pool capacity at elevation 1,710 ft (521.2 m), flood-control pool elevation, is 413,800 acre-ft (510 hm³) of which 390,800 acre-ft (482 hm³) is controlled storage above elevation 1,520 ft (463.3 m), minimum-pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 421,800 acre-ft (520 hm³) Mar. 5, 1966, elevation, 1,711.7 ft (521.73 m), caused by flood before valves were operational; minimum since initial filling, 6,990 acre-ft (8.62 hm³) Jan. 13, 1967, elevation, 1,464.5 ft (446.38 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 216,000 acre-ft (266 hm³) May 29, elevation, 1,660.34 ft (506.072 m); minimum, 57,620 acre-ft (71.0 hm³) Feb. 25, elevation, 1,574.68 ft (479.962 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	1645.89	175100	-	-
Oct. 31.....	1607.27	97080	-78020	-1270
Nov. 30.....	1578.41	61170	-35910	-603
Dec. 31.....	1579.30	62050	+880	+14
CAL YR 1980			+2430	+3
Jan. 31.....	1582.21	65010	-2960	-48
Feb. 28.....	1576.25	59090	-5920	-107
Mar. 31.....	1596.94	82340	+23250	+378
Apr. 30.....	1652.94	194200	+111900	+1880
May 31.....	1654.50	198600	+4400	+72
June 30.....	1652.25	192200	-6400	-108
July 31.....	1652.38	192600	+400	-7
Aug. 31.....	1643.84	169900	-22700	-369
Sept. 30.....	1636.95	153300	-16600	-279
WTR YR 1981			-21800	-30

KANAWHA RIVER BASIN

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03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV

LOCATION.--Lat 38°13'00", long 80°53'30", Nicholas County, Hydrologic Unit 05050005, on right bank 0.4 mi (0.6 km) downstream from Summersville Dam, 5.0 mi (8.0 km) southwest of Summersville, and at mile 34.1 (54.9 km).

DRAINAGE AREA.--804 mi² (2,082 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1966 to current year.

REVISED RECORD.--WDR WV-67: 1966.

GAGE.--Water-stage recorder. Datum of gage is 1,350.00 ft (411.480 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water-discharge records good. Flow regulated by Summersville Lake (station 03189590).

AVERAGE DISCHARGE.--15 years, 2,156 ft³/s (61.06 m³/s), 36.42 in/yr (925 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s (504 m³/s) Mar. 26, 1966, gage height, 19.30 ft (5.883 m); minimum, 1.9 ft³/s (0.054 m³/s) Feb. 16, 17, 1967, gage height, 3.67 ft (1.119 m); minimum daily, 2.4 ft³/s (0.068 m³/s) Feb. 10, 13-16, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,900 ft³/s (422 m³/s) June 10, gage height, 18.31 ft (5.581 m); minimum daily, 184 ft³/s (5.21 m³/s) Oct. 1, 2, Sept. 5-7, 9-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	1380	2390	1710	492	5090	313	1760	8440	539	509	1070
2	184	1350	1400	1510	1140	5750	316	1950	5510	786	446	1070
3	1280	1010	1690	915	3390	3500	319	2090	4270	666	341	1070
4	2390	1010	1980	662	3810	2720	322	1700	6130	476	416	706
5	2380	1010	1980	425	3790	3210	325	1220	7370	324	802	184
6	2370	1010	1970	285	3270	3210	325	1150	7040	1490	955	184
7	2400	1000	1970	288	2170	3220	327	1370	7920	2890	1790	184
8	2490	1000	1740	288	1740	2900	327	1240	4080	1530	1700	186
9	2500	1000	1100	441	1040	2200	330	1070	2630	945	682	184
10	2540	995	1100	572	642	1680	330	850	9860	782	582	184
11	2550	995	1410	572	4120	1430	333	3810	14100	835	515	184
12	1940	990	1410	572	5890	1260	333	7840	8620	686	515	1150
13	1520	798	1920	468	3740	980	336	4870	4940	316	515	1140
14	1550	722	2190	465	2830	806	339	3150	4540	338	431	291
15	1540	722	1750	465	2130	806	339	5220	2990	398	358	291
16	1460	718	1250	385	1780	1040	339	4810	1780	529	570	291
17	1470	718	1020	268	2580	1370	342	3660	1140	515	738	291
18	1500	714	742	268	3930	1580	1140	3110	1320	327	470	602
19	1430	1000	496	372	5030	1740	3210	6640	910	238	525	1550
20	1010	1400	496	421	6810	1600	4160	9100	1890	238	746	1550
21	1010	1400	441	415	9520	1150	2850	5410	1720	238	960	818
22	1010	1390	345	425	11700	990	2020	3530	2100	398	1050	638
23	1010	1390	342	425	12400	990	2020	3110	1950	303	1050	1340
24	1000	1930	342	425	11400	1140	2280	1730	860	230	1050	678
25	1440	4140	342	425	6140	1560	2520	1110	558	207	1050	1120
26	1450	5160	342	572	3580	2500	2050	1110	915	207	1050	2390
27	1000	5120	342	1590	2660	3720	2040	1280	985	207	1050	2380
28	995	5050	342	2140	2440	6320	1690	4370	990	316	1060	2370
29	995	4980	342	1080	---	5540	1460	14800	726	2650	1080	2370
30	995	4170	1130	485	---	1880	1650	13800	369	2430	1080	2360
31	1010	---	1710	485	---	300	---	11500	---	900	1080	---
TOTAL	46603	54272	36024	19819	120164	72182	34685	128360	116653	22934	25166	28826
MEAN	1503	1809	1162	639	4292	2328	1156	4141	3888	740	812	961
MAX	2550	5160	2390	2140	12400	6320	4160	14800	14100	2890	1790	2390
MIN	184	714	342	268	492	300	313	850	369	207	341	184

CAL YR 1980 TOTAL 633287 MEAN 1730 MAX 12100 MIN 160 MEAN# 1733 CFSM# 2.16 IN# 29.35
WTR YR 1981 TOTAL 705688 MEAN 1933 MAX 14800 MIN 184 MEAN# 1903 CFSM# 2.37 IN# 32.14

* Adjusted for change in contents in Summersville Lake.

KANAWHA RIVER BASIN

03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1974 to April 1977, November 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1980 to September 1981.

WATER TEMPERATURES: November 1974 to April 1977, November 1980 to September 1981.

INSTRUMENTATION.--Conductance recorder since December 1980. Temperature recorder November 1974 to April 1977, November 1980 to September 1981.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 23.0°C Aug. 26, Sept. 3, 1975; minimum, 0.5°C Jan. 9, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 86 micromhos Feb. 3-5, 9; minimum recorded, 43 micromhos June 15.

WATER TEMPERATURES: Maximum recorded, 20.0°C Sept. 5; minimum recorded, 1.0°C Feb. 8-15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 12...	1330	986	85	7.2	13.5	10.2	--	--	24	14	.0	5.5
JAN 12...	1330	467	73	7.1	3.5	13.2	--	--	21	14	.0	5.0
FEB 26...	1730	2700	47	6.6	5.0	--	75	320	13	10	<.1	2.9
MAR 06...	1300	3380	57	6.9	5.0	--	--	--	--	--	--	--
APR 07...	1230	336	73	6.9	4.5	12.2	K1	K17	22	16	<.1	5.1
JUN 15...	1130	3010	45	6.9	16.0	--	--	--	14	10	<.1	3.5
JUL 20...	1510	239	50	7.0	17.5	--	--	--	16	--	--	4.1
AUG 24...	1610	1090	61	7.0	18.0	9.5	<1	K25	20	12	.0	4.7

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
NOV 12...	2.4	3.8	.3	10	19	2.5	--	46	--	.06	122	<.010
JAN 12...	2.1	2.6	.3	7	15	2.3	3.7	33	35	.04	41.6	--
FEB 26...	1.3	1.3	.2	3	8.8	1.8	3.0	31	25	.04	226	<.010
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--
APR 07...	2.2	3.1	.3	6	13	3.4	3.8	38	38	.05	34.5	<.010
JUN 15...	1.3	1.0	.1	4	8.4	1.2	--	28	--	.04	228	--
JUL 20...	1.5	1.3	.1	7	12	1.2	--	36	--	.05	23.2	--
AUG 24...	2.0	1.5	.2	8	13	1.4	4.0	--	33	.04	97.1	<.010

K Results based on colony count outside the acceptable range (non-ideal colony count).

KANAWHA RIVER BASIN

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03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)
NOV 12...	<.03	.43	.040	<.010	<.03	--	--	--	--	--	--	--
JAN 12...	--	--	--	--	--	--	--	--	--	40	<1	3
FEB 26...	--	.94	.020	<.010	--	--	--	--	--	40	<1	<1
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--
APR 07...	--	.75	.060	<.010	--	--	--	--	--	40	<1	<1
JUN 15...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 24...	--	.55	.070	<.010	--	90	70	20	0	20	<1	<1

DATE	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)
NOV 12...	--	--	--	--	--	--	150	140	10	--	--	--
JAN 12...	--	--	<3	--	<10	--	220	180	44	--	<10	--
FEB 26...	--	--	<3	--	<10	--	580	540	38	--	<10	--
APR 07...	--	--	<3	--	<10	--	340	310	34	--	<10	--
JUN 15...	--	--	--	--	--	--	3600	3500	90	--	--	--
JUL 20...	--	--	--	--	--	--	610	500	110	--	--	--
AUG 24...	<1	<10	<3	10	<10	2	290	230	57	3800	<10	10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
NOV 12...	--	90	10	80	--	--	--	--	--	--	--	--
JAN 12...	<4	110	10	99	--	--	<10	--	36	<6.0	11	--
FEB 26...	<4	90	2	88	--	--	11	--	22	<6.0	<4	--
APR 07...	<4	80	0	89	--	--	<10	--	38	<6.0	<4	--
JUN 15...	--	140	80	60	--	--	--	--	--	--	--	--
JUL 20...	--	170	20	150	--	--	--	--	--	--	--	--
AUG 24...	<4	170	20	150	700	<.01	<10	<1	34	<6.0	8	14

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			---	---	7.0	7.0	4.0	4.0	3.0	3.0	---	---
2			---	---	7.0	6.5	4.0	4.0	3.0	2.5	4.5	4.5
3			---	---	6.5	6.5	4.0	3.5	2.5	2.0	4.5	4.5
4			---	---	6.5	6.5	3.5	3.5	2.0	2.0	4.5	4.5
5			13.0	13.0	6.5	6.0	3.5	3.0	2.0	1.5	5.0	4.5
6			13.0	13.0	6.0	6.0	3.0	3.0	1.5	1.5	5.0	5.0
7			13.5	13.0	6.0	6.0	3.0	3.0	1.5	1.5	5.0	5.0
8			13.5	13.5	6.0	5.5	3.0	3.0	1.5	1.0	5.0	4.5
9			13.5	13.5	5.5	5.5	3.0	3.0	1.0	1.0	4.5	4.5
10			13.5	13.5	5.5	5.5	3.0	3.0	1.0	1.0	4.5	4.5
11			13.5	13.0	5.5	5.5	3.0	3.0	1.0	1.0	4.5	4.0
12			13.0	13.0	5.5	5.5	3.0	3.0	1.0	1.0	4.0	4.0
13			13.0	13.0	5.5	5.5	3.0	3.0	1.0	1.0	4.0	4.0
14			13.0	13.0	5.5	5.5	3.5	3.0	1.0	1.0	4.0	4.0
15			13.0	12.5	5.5	5.5	3.5	3.5	1.0	1.0	4.0	4.0
16			12.5	12.0	5.5	5.5	3.5	3.0	---	---	4.0	4.0
17			12.0	12.0	5.5	5.5	3.0	3.0	---	---	4.0	4.0
18			12.0	12.0	5.5	5.5	3.0	3.0	---	---	4.0	4.0
19			12.0	11.5	5.5	4.5	3.0	3.0	---	---	4.0	4.0
20			11.5	10.5	4.5	4.5	3.0	3.0	---	---	4.0	3.5
21			10.5	9.5	4.5	4.0	3.5	3.0	---	---	3.5	3.5
22			9.5	9.0	4.0	4.0	3.5	3.5	---	---	3.5	3.5
23			9.0	9.0	4.0	4.0	3.5	3.5	---	---	3.5	3.5
24			9.0	9.0	4.5	4.0	3.5	3.5	---	---	3.5	3.5
25			9.0	8.5	4.0	3.5	3.5	3.5	---	---	3.5	3.5
26			8.5	8.0	3.5	3.5	3.5	3.5	---	---	3.5	3.5
27			8.0	7.5	3.5	3.5	3.5	3.5	---	---	3.5	3.5
28			7.5	7.0	4.0	3.5	3.5	3.5	---	---	3.5	3.5
29			7.0	7.0	4.0	4.0	3.5	3.0	---	---	4.5	3.5
30			7.0	7.0	4.0	4.0	3.0	3.0	---	---	5.5	4.5
31			---	---	4.0	4.0	3.0	3.0	---	---	6.5	4.5
MONTH			13.5	7.0	7.0	3.5	4.0	3.0	3.0	1.0	6.5	3.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.5	4.5	8.5	8.5	12.5	12.5	16.0	15.5	17.0	17.0	18.5	18.5
2	6.0	4.5	8.5	8.5	13.0	12.5	15.5	15.5	17.0	17.0	19.0	18.5
3	5.5	5.0	9.0	8.5	13.0	13.0	16.0	15.5	17.5	17.0	19.0	19.0
4	5.5	5.0	9.5	9.0	13.0	13.0	16.5	15.5	17.5	17.0	19.0	19.0
5	5.5	5.5	9.5	9.5	13.0	13.0	16.0	15.5	17.0	17.0	20.0	18.5
6	5.5	5.0	9.5	9.5	13.5	13.0	16.0	16.0	17.0	17.0	19.5	18.5
7	5.5	5.0	9.5	9.5	13.5	13.5	16.0	16.0	17.0	17.0	19.5	18.5
8	6.0	5.0	9.5	9.5	14.0	13.5	16.0	16.0	17.0	17.0	19.0	18.5
9	5.5	5.5	10.0	9.5	14.5	14.0	16.0	16.0	17.0	17.0	19.0	18.5
10	5.5	5.5	10.0	10.0	14.5	14.5	16.0	16.0	17.5	17.0	19.5	18.0
11	5.5	5.0	10.0	9.5	14.5	14.5	16.0	16.0	17.5	17.5	19.5	18.0
12	6.0	5.5	9.5	9.5	15.0	14.5	16.0	16.0	17.5	17.5	19.0	18.5
13	6.5	5.5	10.5	9.5	15.5	15.0	16.0	16.0	17.5	17.0	19.0	19.0
14	6.0	5.5	10.5	10.5	16.0	15.5	16.5	16.0	17.5	17.0	19.5	19.0
15	6.0	5.0	10.5	10.5	16.0	16.0	16.0	15.5	18.0	17.0	19.5	19.5
16	6.0	5.0	10.5	10.5	15.5	15.5	16.0	16.0	17.5	17.5	19.0	19.0
17	5.5	5.5	10.5	10.5	15.5	15.5	16.0	16.0	17.5	17.5	19.0	18.5
18	6.5	5.5	10.5	10.5	15.5	15.5	16.5	16.0	18.0	17.5	19.0	18.5
19	6.0	6.0	11.0	11.0	15.5	15.5	16.5	16.0	17.5	17.0	19.0	19.0
20	6.0	6.0	11.0	11.0	15.5	15.5	16.5	16.0	17.5	17.5	19.5	19.0
21	6.5	6.0	11.5	11.0	15.5	15.5	16.5	16.0	17.5	17.5	19.5	19.5
22	7.0	6.5	11.5	11.5	15.5	15.5	16.0	16.0	17.5	17.5	19.5	19.0
23	7.5	7.0	11.5	11.0	15.5	15.5	17.0	15.5	17.5	17.5	19.5	19.5
24	7.5	7.5	11.5	11.0	16.0	15.5	17.0	16.0	18.0	17.5	19.5	19.0
25	7.5	7.5	11.5	11.5	16.0	15.5	17.0	16.0	18.0	18.0	19.5	19.0
26	8.0	7.5	12.0	11.5	15.5	15.5	17.0	16.0	18.0	18.0	19.5	19.5
27	8.5	8.0	11.5	11.5	15.5	15.5	17.0	16.5	18.0	18.0	19.5	19.5
28	8.5	8.5	11.5	11.5	15.5	15.5	17.0	16.0	18.0	18.0	19.5	19.5
29	8.5	8.5	11.5	11.5	15.5	15.5	16.0	16.0	18.5	18.0	19.5	19.5
30	8.5	8.5	12.0	11.5	16.0	15.5	16.0	16.0	18.5	18.5	19.5	19.5
31	---	---	12.5	12.0	---	---	17.0	16.0	18.5	18.5	---	---
MONTH	8.5	4.5	12.5	8.5	16.0	12.5	17.0	15.5	18.5	17.0	20.0	18.0
YEAR	20.0	1.0										

KANAWHA RIVER BASIN

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03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	71	75	49	70		---	59		
2			---	72	77	52	70		---	54		
3			---	72	84	57	69		---	53		
4			---	74	85	57	69		---	55		
5			---	74	84	57	68		---	61		
6			---	73	81	59	69		---	59		
7			---	72	82	58	67		---	55		
8			---	74	81	58	66		---	54		
9			---	73	85	57	67		---	54		
10			---	74	83	58	---		---	---		
11			---	75	77	59	---		---	---		
12			---	75	74	61	---		---	---		
13			---	74	76	59	---		---	---		
14			---	73	72	60	---		---	---		
15			---	73	70	59	---		47	---		
16			---	73	67	59	---		47	---		
17			---	74	63	60	---		48	---		
18			---	74	61	61	---		48	---		
19			---	74	63	66	---		49	---		
20			---	73	61	70	---		49	---		
21			---	73	55	68	---		50	---		
22			66	73	55	67	---		53	---		
23			66	73	54	68	---		55	---		
24			65	74	54	71	---		57	---		
25			71	73	54	70	---		58	---		
26			70	73	51	71	---		54	---		
27			68	74	50	70	---		52	---		
28			69	75	49	74	---		52	---		
29			69	75	---	73	---		52	---		
30			70	75	---	71	---		56	---		
31			71	76	---	67	---		---	---		
MEAN				74	69	63						

KANAWHA RIVER BASIN

03189890 MEADOW RIVER AT MCROSS, WV

LOCATION.--Lat 37°59'37", long 80°44'53", Greenbrier County, Hydrologic Unit 05050005, on right bank on downstream side of highway bridge at McRoss, 1.4 mi (2.3 km) upstream from Sewell Creek, and at mile 32.6 (52.5 km).

DRAINAGE AREA.--163 mi² (422 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,400 ft (732 m), from topographic map.

REMARKS.--Records good except those for November, which are fair, and those for October, December, January, and February, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft³/s (71.4 m³/s), May 20, 1981, gage height, 11.57 ft (3.527 m); minimum daily, 6.9 ft³/s (0.20 m³/s) Oct. 23, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,520 ft³/s (71.4 m³/s), May 20, gage height, 11.57 ft (3.527 m), no other peak above base of 2,500 ft³/s (71.0 m³/s); minimum daily, 6.9 ft³/s (0.20 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	40	171	140	265	621	535	266	886	103	51	9.8
2	13	35	189	130	313	600	557	238	1030	120	40	9.5
3	13	32	288	110	518	490	463	202	1040	98	34	17
4	15	29	255	82	430	395	381	176	995	81	32	930
5	17	28	222	72	350	572	458	155	1110	69	29	1830
6	16	34	193	70	250	836	595	143	1110	244	32	1010
7	13	31	168	85	180	776	518	149	1230	369	89	504
8	12	28	147	78	140	661	416	135	1060	225	111	287
9	10	28	146	65	130	499	359	118	845	148	92	256
10	9.8	28	293	58	120	343	393	108	739	114	60	176
11	9.5	32	294	52	530	273	343	514	557	99	46	122
12	11	29	250	49	845	238	303	1260	329	82	47	93
13	9.5	26	213	47	762	217	488	1120	265	68	50	75
14	8.0	24	182	48	595	202	530	791	294	71	37	62
15	7.7	25	152	54	467	175	666	716	241	66	31	56
16	7.7	26	138	45	379	193	618	626	188	54	82	79
17	7.7	29	127	33	526	213	845	514	196	51	98	76
18	7.5	102	107	27	851	238	1340	397	168	44	55	57
19	7.4	129	99	23	1030	228	1160	1070	135	41	40	52
20	7.4	92	57	19	1280	210	959	2260	132	53	33	52
21	7.2	72	41	17	1810	201	785	2160	121	43	27	45
22	7.2	62	39	18	1610	176	653	1370	104	35	23	38
23	6.9	55	59	22	1460	182	543	827	108	29	20	33
24	14	554	93	50	1710	192	669	504	88	27	18	31
25	29	1260	74	96	1270	287	634	300	72	83	16	27
26	115	773	56	104	920	414	575	233	78	43	15	26
27	56	507	50	169	661	582	469	201	75	57	13	24
28	42	321	47	275	463	848	381	582	61	76	12	22
29	61	244	84	390	---	722	314	1600	49	130	11	20
30	61	197	120	380	---	675	280	1360	49	142	11	19
31	46	---	135	310	---	637	---	999	---	76	10	---
TOTAL	660.5	4872	4489	3118	19865	12896	17230	21094	13355	2941	1265	6038.3
MEAN	21.3	162	145	101	709	416	574	680	445	94.9	40.8	201
MAX	115	1260	294	390	1810	848	1340	2260	1230	369	111	1830
MIN	6.9	24	39	17	120	175	280	108	49	27	10	9.5
CFSM	.13	.99	.89	.62	4.35	2.55	3.52	4.17	2.73	.58	.25	1.23
IN.	.15	1.11	1.02	.71	4.53	2.94	3.93	4.81	3.05	.67	.29	1.38
CAL YR 1980	TOTAL	118462.5	MEAN	324	MAX	2340	MIN	6.9	CFSM	1.99	IN	27.04
WTR YR 1981	TOTAL	107823.8	MEAN	295	MAX	2260	MIN	6.9	CFSM	1.81	IN	24.61

KANAWHA RIVER BASIN

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03189890 MEADOW RIVER AT MCROSS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)
OCT 22...	1130	6.9	15	7.2	9.5	8.8	--	--	57	33	.0
DEC 01...	1630	174	64	6.9	3.5	11.6	--	--	26	17	<.1
JAN 13...	1430	51	98	6.7	.0	10.8	--	--	32	20	.1
FEB 19...	0900	1020	58	6.7	3.5	10.8	240	130	18	13	<.1
APR 01...	0930	490	61	6.7	10.0	9.4	2000	880	21	14	<.1
JUN 03...	1400	1040	60	6.8	15.5	--	--	--	21	11	<.1
JUL 20...	2030	30	115	6.7	23.0	--	--	--	40	--	<.1
AUG 24...	1915	18	120	7.0	20.0	7.7	420	K1800	47	28	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 22...	14	5.4	3.7	12	.2	1.9	29	39	2.4	.0	.8
DEC 01...	6.3	2.4	2.6	--	.2	--	11	17	3.4	--	4.6
JAN 13...	7.7	3.0	2.2	--	.2	--	15	20	2.2	--	--
FEB 19...	4.5	1.6	1.3	--	.1	--	6	9.3	2.4	--	3.7
APR 01...	5.2	2.0	1.6	--	.2	--	8	11	2.2	--	3.8
JUN 03...	5.6	1.7	1.2	--	.1	--	12	8.9	1.5	--	--
JUL 20...	10	3.6	2.2	--	.2	--	19	24	.9	--	--
AUG 24...	12	4.0	2.6	--	.2	--	23	26	1.8	--	1.9

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT 22...	86	82	.12	1.6	--	--	--	--	--	--
DEC 01...	50	42	.07	23.5	--	--	--	--	--	--
JAN 13...	49	--	.07	6.7	--	--	--	--	--	--
FEB 19...	32	30	.04	88.1	.92	4.1	.020	.07	.94	.040
APR 01...	34	34	.05	45.0	--	--	<.010	--	.80	.040
JUN 03...	41	--	.06	115	--	--	--	--	--	--
JUL 20...	54	--	.07	4.3	--	--	--	--	--	--
AUG 24...	--	61	.08	2.9	.16	.70	.040	.13	.20	.170

KANAWHA RIVER BASIN

03189890 MEADOW RIVER AT MCROSS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS- PHORUS, ORTH0, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTH0, DIS- SOLVED (MG/L AS P04)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--
DEC 01...	--	--	--	--	--	--	50	<0	<1	--	--
JAN 13...	--	--	--	--	--	--	--	--	--	--	--
FEB 19...	<.010	--	--	--	--	--	40	1	1	--	--
APR 01...	.010	.03	--	--	--	--	50	<1	<1	--	--
JUN 03...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
AUG 24...	.040	.12	90	70	20	<1	40	<1	<1	<1	<10

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
OCT 22...	--	--	--	--	420	320	100	--	--	--	--
DEC 01...	<3	--	<10	--	410	300	110	--	<10	--	<4
JAN 13...	--	--	--	--	370	290	80	--	--	--	--
FEB 19...	3	--	10	--	1300	1200	66	--	10	--	4
APR 01...	<3	--	<10	--	510	470	43	--	<10	--	<4
JUN 03...	--	--	--	--	820	640	180	--	--	--	--
JUL 20...	--	--	--	--	560	430	130	--	--	--	--
AUG 24...	<3	<10	<10	1	720	620	96	750	<10	<10	<4

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
OCT 22...	90	10	80	--	--	--	--	--	--	--	--
DEC 01...	90	20	75	--	--	<10	--	39	<6.0	<4	--
JAN 13...	100	10	90	--	--	--	--	--	--	--	--
FEB 19...	120	60	65	--	--	10	--	26	6.0	6	--
APR 01...	40	0	42	--	--	<10	--	32	<6.0	<4	--
JUN 03...	60	30	30	--	--	--	--	--	--	--	--
JUL 20...	80	0	80	--	--	--	--	--	--	--	--
AUG 24...	140	10	130	120	<.01	<10	<1	85	<6.0	<4	20

KANAWHA RIVER BASIN

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03190400 MEADOW RIVER NEAR MT. LOOKOUT, WV

LOCATION.--Lat 38°11'25", long 80°56'55", Nicholas County, Hydrologic Unit 05050005, on right bank 1,000 ft (305 m) upstream from mouth, and 2.5 mi (4.0 km) northwest of Mt. Lookout.

DRAINAGE AREA.--365 mi² (945 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,200 ft (366 m), from topographic map.

REMARKS.--Water-discharge records fair except those below 50 ft³/s (1.42 m³/s), and those for December, January, and February, which are poor. Corps of Engineers gage-height telemeter at station. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

AVERAGE DISCHARGE.--15 years, 774 ft³/s (21.92 m³/s), 28.80 in/yr (732 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft³/s (524 m³/s) Mar. 7, 1967, gage height, 13.44 ft (4.097 m); minimum discharge, 11 ft³/s (0.31 m³/s) Oct. 13, 26, 1978; minimum gage height, 2.51 ft (0.765 m) Sept. 12, 13, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,020 ft³/s (142 m³/s) May 20, gage height, 8.51 ft (2.594 m), no other peak above base of 5,000 ft³/s (140 m³/s); minimum, 12 ft³/s (0.34 m³/s) Oct. 23, 24, 25, gage height, 2.74 ft (0.835 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	80	348	281	350	1490	1170	648	2430	160	157	18
2	32	66	336	260	878	1620	1580	602	2650	230	111	18
3	31	56	460	220	1140	1270	1280	538	2360	210	89	20
4	32	51	535	170	930	999	1010	478	2120	166	77	660
5	41	47	470	140	710	1240	1040	424	2760	145	66	2290
6	36	55	405	130	480	1980	1500	392	2550	437	69	1560
7	34	50	356	150	360	1740	1310	418	2840	1020	98	834
8	31	51	309	140	280	1400	1060	378	2260	631	166	530
9	28	49	292	130	260	1100	875	335	1650	404	203	415
10	26	45	430	110	250	833	852	306	1740	306	145	324
11	24	44	585	94	888	670	792	504	1510	253	102	238
12	22	40	540	82	1550	575	726	2120	988	203	89	169
13	20	40	470	70	1200	513	1670	2060	901	163	98	135
14	18	39	396	78	950	465	1650	1560	945	151	94	111
15	17	38	340	64	800	416	2000	1640	749	148	74	116
16	18	39	306	50	736	466	1670	1570	542	130	70	175
17	16	41	278	42	770	584	2350	1210	493	113	163	185
18	15	67	246	36	1330	668	3400	953	461	105	148	140
19	14	203	214	32	1670	689	2430	1930	368	89	96	113
20	15	196	175	29	2190	626	1990	4700	798	80	72	107
21	15	142	97	27	3360	559	1710	3800	661	91	57	98
22	14	116	74	26	2980	507	1340	2460	486	82	50	84
23	13	100	84	135	2880	487	1120	1620	414	67	43	72
24	12	470	160	210	3370	527	1430	1070	325	57	36	61
25	22	2180	170	206	2450	768	1480	699	257	50	33	56
26	120	1490	125	302	1820	1150	1390	525	250	87	30	51
27	182	959	100	568	1380	1460	1160	448	226	85	27	47
28	107	690	98	762	1060	1970	924	689	175	116	25	44
29	89	515	160	754	---	1670	765	2710	140	465	23	39
30	93	410	250	613	---	1370	686	2650	120	415	21	36
31	100	---	267	428	---	1250	---	2620	---	267	20	---
TOTAL	1271	8369	9076	6339	37022	31062	42360	42057	34169	6926	2552	8746
MEAN	41.0	279	293	204	1322	1002	1412	1357	1139	223	82.3	292
MAX	182	2180	585	762	3370	1980	3400	4700	2840	1020	203	2290
MIN	12	38	74	26	250	416	686	306	120	50	20	18
CFSM	.11	.76	.80	.56	3.62	2.75	3.87	3.72	3.12	.61	.23	.80
IN.†	.13	.85	.93	.65	3.77	3.17	4.32	4.29	3.48	.71	.26	.89
IN.‡	2.30	2.28	1.62	.94	3.79	2.52	5.05	5.95	6.80	4.79	2.01	1.98

CAL YR 1980 TOTAL 247066 MEAN 675 MAX 3830 MIN 12 CFSM 1.85 IN 25.18
WTR YR 1981 TOTAL 229949 MEAN 630 MAX 4700 MIN 12 CFSM 1.73 IN 23.44

† Runoff.

‡ Rainfall.

KANAWHA RIVER BASIN

03190400 MEADOW RIVER NEAR MT. LOOKOUT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February to September 1981.

INSTRUMENTATION.--Conductance recorder since February 1981.

EXTREMES FOR PERIOD FEBRUARY TO SEPTEMBER 1981.--

SPECIFIC CONDUCTANCE: Maximum, 182 micromhos Sept. 4; minimum, 44 micromhos Feb. 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)
OCT 30...	1025	97	136	7.3	7.5	10.3	--	--	47	26	.0
DEC 05...	0915	488	72	6.8	2.5	13.3	--	--	21	14	<.1
JAN 09...	1200	F130	96	6.8	.0	14.0	--	--	26	--	<.1
FEB 26...	1100	1770	66	6.4	3.0	--	350	64	20	15	<.1
APR 22...	1430	1330	62	6.6	10.0	11.4	220	18	21	13	<.1
JUN 11...	1130	1450	62	6.1	16.0	9.9	--	--	22	16	<.1
JUL 20...	1130	83	126	7.4	25.5	2.2	--	--	40	--	--
AUG 24...	1200	42	126	7.6	21.0	8.3	22	170	42	22	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 30...	12	4.1	5.1	18	.3	2.1	21	31	4.6	.0	2.3
DEC 05...	5.4	1.9	2.3	--	.2	--	7	15	2.8	--	3.9
JAN 09...	6.1	2.6	4.2	--	.4	--	--	17	4.9	--	--
FEB 26...	5.0	1.9	1.9	--	.2	--	5	12	2.8	--	4.3
APR 22...	5.1	1.9	1.8	--	.2	--	8	12	2.3	--	4.2
JUN 11...	5.6	1.9	1.8	--	.2	--	6	11	1.8	--	--
JUL 20...	10	3.7	4.9	--	.3	--	22	25	1.5	--	--
AUG 24...	11	3.6	5.8	--	.4	--	24	23	3.1	--	2.2

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT 30...	80	74	.11	21.0	--	--	--	--	--	--	--
DEC 05...	44	39	.06	58.0	.58	2.6	.000	.00	.58	--	.020
JAN 09...	52	--	.07	--	--	--	--	--	--	--	--
FEB 26...	40	34	.05	191	--	--	<.010	--	.75	--	.030
APR 22...	42	35	.06	151	--	--	<.010	--	.48	--	.050
JUN 11...	33	--	.04	129	--	--	--	--	--	--	--
JUL 20...	72	--	.10	16.1	--	--	--	--	--	220	--
AUG 24...	--	62	.08	7.0	--	--	<.010	--	.32	--	.030

KANAWHA RIVER BASIN

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03190400 MEADOW RIVER NEAR MT. LOOKOUT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS EA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
OCT 30...	--	--	--	--	--	--	--	--	--	--	--
DEC 05...	.000	.00	--	--	--	--	40	<0	<1	--	--
JAN 09...	--	--	--	--	--	--	--	--	--	--	--
FEB 26...	<.010	--	--	--	--	--	40	1	<1	--	--
APR 22...	<.010	--	--	--	--	--	40	<1	<1	--	--
JUN 11...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
AUG 24...	<.010	--	90	70	20	0	40	<1	2	<1	<10

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
OCT 30...	--	--	--	--	360	230	130	--	--	--	--
DEC 05...	<3	--	<10	--	610	540	66	--	<10	--	<4
JAN 09...	--	--	--	--	160	100	60	--	--	--	--
FEB 26...	<3	--	<10	--	670	610	57	--	<10	--	<4
APR 22...	<3	--	<10	--	610	540	66	--	<10	--	<4
JUN 11...	--	--	--	--	930	830	100	--	--	--	--
JUL 20...	--	--	--	--	220	210	10	--	--	--	--
AUG 24...	<3	<10	<10	1	290	260	27	490	<10	<10	<4

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
OCT 30...	30	20	6	--	--	--	--	--	--	--	--
DEC 05...	20	10	9	--	--	<10	--	36	<6.0	12	--
JAN 09...	10	5	5	--	--	--	--	--	--	--	--
FEB 26...	60	40	22	--	--	<10	--	34	<6.0	6	--
APR 22...	40	30	12	--	--	<10	--	35	<6.0	<4	--
JUN 11...	80	70	10	--	--	--	--	--	--	--	--
JUL 20...	10	0	10	--	--	--	--	--	--	--	--
AUG 24...	30	20	11	170	<.01	<10	<1	84	<6.0	<4	11

KANAWHA RIVER BASIN

03190400 MEADOW RIVER NEAR MT. LOOKOUT, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	68	64	74	60	111	108	173
2					---	65	63	76	62	112	115	175
3					---	64	62	75	63	121	120	179
4					---	66	62	76	70	120	123	170
5					---	67	64	75	76	115	126	70
6					---	66	67	77	76	105	124	62
7					---	62	63	77	71	85	119	73
8					---	64	63	78	62	82	124	95
9					---	65	64	79	62	81	136	105
10					---	67	67	79	62	87	132	111
11					---	69	68	80	66	90	129	115
12					---	72	67	72	67	95	117	105
13					---	73	60	64	67	100	123	106
14					---	76	61	64	66	103	123	109
15					---	77	60	65	74	106	125	114
16					---	76	61	64	77	109	127	118
17					---	77	60	63	84	113	132	118
18					---	76	57	65	92	115	132	119
19					---	75	58	67	92	119	135	128
20					---	75	60	61	86	122	127	126
21					---	77	62	60	73	125	129	118
22					---	79	63	62	73	128	125	117
23					---	78	66	66	77	133	124	118
24					---	79	67	69	85	134	128	119
25					---	80	65	74	90	134	131	119
26					66	75	65	79	92	140	143	120
27					70	67	64	83	98	149	155	124
28					68	64	66	83	104	146	156	128
29					---	59	69	71	107	103	157	132
30					---	60	71	60	108	89	163	136
31					---	63	---	59	---	113	168	---
MEAN					68	70	64	71	78	112	131	120
WTR YR 1981	MEAN	92		MAX	179	MIN	57					

KANAWHA RIVER BASIN

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03191500 PETERS CREEK NEAR LOCKWOOD, WV

LOCATION.--Lat 38°15'45", long 81°01'24", Nicholas County, Hydrologic Unit 05050005, on left bank, 0.9 mi (1.4 km) downstream from Tate Run, 1.5 mi (2.4 km) upstream from Line Creek and Lockwood, and at mile 5.2 (8.4 km).

DRAINAGE AREA.--40.2 mi² (104 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1971, November 1979 to current year.

REVISIONS: WDR WV-80-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,070 ft (326 m), from topographic map. Prior to Sept. 30, 1971, at site 0.5 mi (0.8 km) downstream at datum 1,059.52 ft (322.942 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1945, nonrecording gage and Nov. 2, 1945, to Aug. 2, 1955, water-stage recorder near present site at datum 1,072.19 ft (326.804 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for October, December, January, and February, which are poor.

AVERAGE DISCHARGE.--27 years (water years 1946-1971, 1981) 62.1 ft³/s (1.759 m³/s), 20.98 in/yr (533 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Aug. 2, 1958, Aug. 30, 1959, from rating curve extended above 2,100 ft³/s (59 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 14.43 ft (4.398 m) Aug. 2, 1958; no flow Sept. 6-9, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,820 ft³/s (79.9 m³/s) June 10, gage height, 8.15 ft (2.484 m), no other peak above base of 1,200 ft³/s (34 m³/s); minimum daily, 4.4 ft³/s (0.12 m³/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	18	41	55	34	174	71	64	202	34	11	5.2
2	11	15	49	61	249	148	70	64	217	31	8.9	6.2
3	12	14	70	46	169	106	66	57	162	24	18	7.6
4	15	13	65	33	98	84	62	50	257	21	16	31
5	22	13	57	31	64	120	80	45	162	27	11	17
6	14	12	47	30	44	154	83	48	176	79	28	9.9
7	11	11	40	35	30	128	79	58	190	46	29	7.2
8	10	11	35	33	28	95	71	48	121	34	19	29
9	9.0	11	56	28	27	77	83	44	83	30	14	28
10	8.2	13	82	25	26	66	138	41	956	30	11	15
11	7.4	10	74	24	76	59	108	53	344	25	11	10
12	9.2	9.4	64	22	54	50	90	48	146	20	27	8.5
13	7.2	9.4	55	18	44	47	126	43	172	17	14	7.2
14	6.0	9.6	44	20	55	42	120	41	212	19	9.9	6.2
15	5.6	9.2	38	22	58	37	121	154	130	16	10	43
16	5.3	10	36	20	52	65	104	118	80	14	51	53
17	5.2	24	31	17	59	72	296	82	64	14	30	37
18	5.0	95	26	14	59	87	302	84	47	13	19	24
19	4.8	62	22	18	60	86	160	317	40	11	15	20
20	4.7	44	17	50	169	77	125	424	70	9.9	12	17
21	4.6	35	15	62	265	69	92	187	53	16	9.9	14
22	4.5	27	14	91	160	68	79	108	54	13	8.5	11
23	4.5	23	15	112	317	76	72	75	56	11	7.2	9.9
24	4.4	215	31	108	284	114	69	56	44	9.9	6.5	8.9
25	80	180	35	68	164	111	59	46	38	9.9	6.2	7.6
26	60	103	22	103	114	93	49	41	47	8.5	5.8	7.2
27	33	81	21	142	87	106	45	47	34	8.9	5.5	6.5
28	29	66	19	106	86	114	41	166	29	23	5.2	6.2
29	32	56	24	77	---	100	46	560	25	48	5.2	5.8
30	25	47	51	57	---	87	54	225	29	22	5.0	5.8
31	21	---	47	47	---	70	---	230	---	15	5.0	---
TOTAL	482.6	1246.6	1243	1575	2932	2782	2961	3624	4240	700.1	434.8	464.9
MEAN	15.6	41.6	40.1	50.8	105	89.7	98.7	117	141	22.6	14.0	15.5
MAX	80	215	82	142	317	174	302	560	956	79	51	53
MIN	4.4	9.2	14	14	26	37	41	41	25	8.5	5.0	5.2
CFSM	.39	1.04	1.00	1.26	2.61	2.23	2.46	2.91	3.51	.56	.35	.39
IN.	.45	1.15	1.15	1.46	2.71	2.57	2.74	3.35	3.92	.65	.40	.43
CAL YR 1980	TOTAL	22777.0	MEAN	62.2	MAX	756	MIN	4.4	CFSM	1.55	IN	21.08
WTR YR 1981	TOTAL	22686.0	MEAN	62.2	MAX	956	MIN	4.4	CFSM	1.55	IN	20.99

KANAWHA RIVER BASIN

03191500 PETERS CREEK NEAR LOCKWOOD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)
OCT											
16...	1630	5.3	380	7.9	13.0	9.8	--	--	97	32	.0
DEC											
05...	1500	52	158	7.1	5.5	11.3	--	--	44	26	.0
JAN											
07...	1640	37	208	6.9	.5	12.0	--	--	51	28	<.1
FEB											
24...	1730	240	130	6.6	5.0	--	1180	260	41	30	<.1
MAR											
20...	1100	66	170	6.1	2.0	12.7	--	--	--	--	--
MAY											
01...	1000	65	185	7.3	12.0	10.0	1700	500	59	37	.0
13...	1530	37	200	7.4	15.5	10.0	--	--	--	--	--
14...	1430	38	210	6.8	18.0	--	--	--	--	--	--
JUN											
12...	1230	156	149	6.9	17.5	--	--	--	50	34	<.1
JUL											
20...	1000	9.7	360	7.8	24.0	--	--	--	90	--	--
AUG											
14...	1230	11	380	7.6	21.0	8.7	--	--	--	--	--
24...	1015	5.8	395	8.1	19.0	9.9	270	160	100	18	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
OCT											
16...	23	9.5	35	43	1.6	2.7	79	90	8.3	.1	3.8
DEC											
05...	10	4.7	8.9	--	.6	--	22	36	3.6	--	6.2
JAN											
07...	12	5.1	16	--	1.0	--	28	46	5.9	--	--
FEB											
24...	9.1	4.3	5.7	--	.4	--	14	30	4.0	--	6.0
MAY											
01...	13	6.4	11	--	.7	--	27	45	3.7	--	6.1
JUN											
12...	11	5.5	7.1	--	.4	--	16	39	2.1	--	--
JUL											
20...	22	8.6	32	--	1.5	--	74	80	6.8	--	--
AUG											
24...	24	9.6	37	--	1.8	--	82	83	9.4	--	2.1

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT										
16...	230	212	.31	3.2	--	--	--	--	--	--
DEC										
05...	88	84	.12	12.4	--	--	<.010	<.03	.75	.050
JAN										
07...	111	--	.15	11.1	--	--	--	--	--	--
FEB										
24...	74	71	.10	48.0	--	--	<.010	--	1.1	.160
MAY										
01...	113	103	.15	19.8	.81	3.6	.020	.07	.83	.090
JUN										
12...	88	--	.12	37.1	--	--	--	--	--	--
JUL										
20...	221	--	.30	5.7	--	--	--	--	--	--
AUG										
24...	--	208	.28	3.2	--	--	<.010	--	.56	.030

03191500 PETERS CREEK NEAR LOCKWOOD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PHOS- PHORUS, ORTH0, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTH0, DIS- SOLVED (MG/L AS P04)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
OCT 16...	--	--	--	--	--	--	--	--	--	--	--
DEC 05...	<.010	<.03	--	--	--	--	50	<0	<1	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 24...	.020	.06	--	--	--	--	40	<1	<1	--	--
MAY 01...	<.010	--	--	--	--	--	60	<1	4	--	--
JUN 12...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
AUG 24...	<.010	--	130	100	30	1	30	<1	<1	<1	<10

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
OCT 16...	--	--	--	--	440	270	170	--	--	--	--
DEC 05...	<3	--	<10	--	300	270	31	--	<10	--	<4
JAN 07...	--	--	--	--	280	200	80	--	--	--	--
FEB 24...	<3	--	<10	--	1200	1200	19	--	<10	--	<4
MAY 01...	<3	--	<10	--	550	510	40	--	42	--	8
JUN 12...	--	--	--	--	1600	1600	20	--	--	--	--
JUL 20...	--	--	--	--	410	300	110	--	--	--	--
AUG 24...	<3	<10	<10	3	820	790	29	2000	<10	<10	8

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
OCT 16...	90	10	80	--	--	--	--	--	--	--	--
DEC 05...	200	20	180	--	--	<10	--	100	<6.0	<4	--
JAN 07...	200	0	200	--	--	--	--	--	--	--	--
FEB 24...	210	80	130	--	--	<10	--	84	<6.0	<4	--
MAY 01...	200	50	150	--	--	<10	--	130	<6.0	18	--
JUN 12...	320	110	210	--	--	--	--	--	--	--	--
JUL 20...	70	0	70	--	--	--	--	--	--	--	--
AUG 24...	70	10	58	470	<.01	<10	<1	280	<6.0	<4	16

KANAWHA RIVER BASIN

03192000 GAULEY RIVER ABOVE BELVA, WV

LOCATION.--Lat 38°14'00", long 81°10'45", Nicholas County, Hydrologic Unit 05050005, on right bank 0.5 mi (0.8 km) upstream from Belva, 1.0 mi (1.6 km) upstream from Twentymile Creek, and at mile 6.7 (10.8 km).

DRAINAGE AREA.--1,315 mi² (3,406 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 873: 1938. WSP 1275: 1929-30.

GAGE.--Water-stage recorder. Datum of gage is 669.00 ft (203.911 m) National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Water-discharge records good except those for August, which are fair. Flow regulated since 1965 by Summersville Lake (station 03189590). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years, 2,728 ft³/s (77.26 m³/s), 28.17 in/yr (716 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft³/s (2,970 m³/s) July 5, 1932, gage height, 28.60 ft (8.717 m), from rating curve extended above 65,000 ft³/s (1,800 m³/s) on basis of velocity-area studies and inflow and storage adjustment to record for Kanawha River at Kanawha Falls; minimum, 3.2 ft³/s (0.091 m³/s) Oct. 21, 1953, gage height, 0.10 ft (0.030 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,100 ft³/s (541 m³/s) May 29, gage height, 10.70 ft (3.261 m); minimum daily, 224 ft³/s (6.34 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	1460	3430	2110	1030	5690	1560	2610	12700	468	759	1070
2	224	1430	1940	2100	2040	8210	2010	2630	9020	1100	673	1050
3	411	1080	2000	1510	4800	5560	1830	2790	7380	931	531	1060
4	2470	1050	2670	980	5170	3880	1530	2580	8350	866	479	1110
5	2460	1050	2610	888	4820	4660	1460	1910	10900	553	622	2170
6	2440	1050	2520	566	4460	5540	2000	1540	9420	924	1130	1990
7	2440	1040	2440	540	3150	5370	1920	1900	12100	4410	1280	1150
8	2540	1040	2320	556	2430	4850	1650	1840	7570	2460	2690	812
9	2570	1040	1710	550	1960	3810	1420	1480	4470	1650	955	652
10	2580	1040	1440	839	1140	2930	1450	1360	10800	1110	844	547
11	2620	1030	2130	1110	3110	2340	1380	2250	16900	1130	678	445
12	2500	1020	2100	973	8110	2160	1280	9100	10700	1060	686	831
13	1560	970	2280	786	5500	1760	2410	7870	6430	695	654	1560
14	1540	781	2730	680	4410	1420	2520	4580	6970	458	649	609
15	1570	781	2440	655	3470	1350	3000	6330	4330	565	486	528
16	1470	778	1820	638	2750	1500	2570	7100	3330	572	571	610
17	1490	795	1350	455	3220	2050	2990	5100	1710	758	862	566
18	1520	940	1290	386	5130	2430	5240	4510	1990	583	892	507
19	1450	984	770	387	6400	2740	5950	7560	1590	379	432	1500
20	1020	1660	724	549	8320	2640	6480	15100	2190	331	774	1670
21	1000	1590	630	569	12900	2130	5360	10700	2850	342	902	1280
22	997	1530	484	614	15000	1750	3680	6390	2600	348	1050	556
23	992	1510	488	705	16300	1730	3420	5110	2820	563	1120	1180
24	988	1950	518	749	16500	1950	3570	3570	1700	302	1110	1260
25	1530	6410	538	747	10400	2490	4410	2000	877	278	1100	401
26	1660	7200	490	882	6180	3550	3590	1750	1090	245	1100	2420
27	1240	6510	544	1840	4400	4980	3390	1740	1250	300	1090	2460
28	1140	6150	543	3400	3990	7810	3020	2610	1200	315	1090	2450
29	1110	5870	548	2530	---	7750	2400	18100	1090	1970	1090	2440
30	1090	5370	819	1270	---	4810	2410	17700	766	3810	1110	2430
31	1100	---	2060	1050	---	1770	---	14600	---	1650	1090	---
TOTAL	47949	65109	48376	31614	167090	111610	85900	174410	165093	31126	28499	37314
MEAN	1547	2170	1561	1020	5968	3600	2863	5626	5503	1004	919	1244
MAX	2620	7200	3430	3400	16500	8210	6480	18100	16900	4410	2690	2460
MIN	224	778	484	386	1030	1350	1280	1360	766	245	432	401

CAL YR 1980 TOTAL 942937 MEAN 2576 MAX 17000 MIN 224 MEAN# 2579 CFSM# 1.96 IN# 26.71
WTR YR 1981 TOTAL 994090 MEAN 2724 MAX 18100 MIN 224 MEAN# 2694 CFSM# 2.05 IN# 27.82

* Adjusted for change in contents in Summersville Lake.

KANAWHA RIVER BASIN

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03192000 GAULEY RIVER ABOVE BELVA, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January to September 1981.

INSTRUMENTATION.--Conductance recorder since January 1981.

REMARKS.--Interruptions in the record due to instrument malfunctions.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 239 micromhos July 24; minimum recorded, 45 micromhos Sept. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)
OCT											
16...	1505	1180	72	7.2	19.5	9.0	--	--	24	15	.0
DEC											
03...	1430	2010	75	6.8	5.0	11.8	--	--	22	12	<.1
JAN											
09...	1545	542	88	7.0	.5	13.1	--	--	24	13	.0
FEB											
24...	1630	16800	56	6.1	4.0	--	250	54	17	14	<.1
MAR											
19...	1215	2670	69	6.2	3.0	11.7	--	--	--	--	--
APR											
30...	1500	2300	61	6.5	14.0	10.1	90	14	21	16	<.1
MAY											
13...	1200	7990	56	6.2	11.0	10.8	--	--	--	--	--
JUN											
09...	1530	4310	58	6.4	16.0	9.6	--	--	20	15	<.1
JUL											
23...	1330	616	84	7.7	26.0	--	--	--	25	--	--
AUG											
14...	1600	679	72	--	21.0	--	--	--	--	--	--
25...	1445	1140	73	7.6	25.0	7.4	K36	30	22	6	.0

K Results based on colony count outside the acceptable range (non-ideal colony count).

KANAWHA RIVER BASIN

03192000 GAULEY RIVER ABOVE BELVA, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 16...	5.8	2.4	3.1	21	.3	1.0	9	17	2.4	.0	2.8
DEC 03...	5.1	2.2	3.2	--	.3	--	10	14	2.8	--	3.9
JAN 09...	5.3	2.6	3.9	--	.3	--	10	18	3.9	--	--
FEB 24...	4.1	1.6	1.5	--	.2	--	3	9.8	2.4	--	3.6
APR 30...	4.6	2.3	2.2	--	.2	--	5	12	2.0	--	3.6
JUN 09...	4.8	2.0	2.0	--	.2	--	5	11	1.9	--	--
JUL 23...	6.0	2.4	3.3	--	.3	--	14	17	1.1	--	--
AUG 25...	5.3	2.1	2.3	--	.2	--	16	13	2.0	--	3.7

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT 16...	51	40	.07	162	--	--	--	--	--	--
DEC 03...	48	37	.07	260	--	--	--	--	--	--
JAN 09...	48	--	.07	70.2	--	--	--	--	--	--
FEB 24...	24	30	.03	1090	<.010	1.0	.060	.030	.09	--
APR 30...	34	33	.05	211	<.010	.73	.040	<.010	--	--
JUN 09...	33	--	.04	384	--	--	--	--	--	--
JUL 23...	50	--	.07	83.2	--	--	--	--	--	--
AUG 25...	--	37	.05	114	<.010	.18	.010	<.010	--	100

03192000 GAULEY RIVER ABOVE BELVA, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)
OCT 16...	--	--	--	--	--	--	--	--	--	--
DEC 03...	--	--	--	40	<0	<1	--	--	<3	--
JAN 09...	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	40	<1	<1	--	--	<3	--
APR 30...	--	--	--	40	<1	2	--	--	<3	--
JUN 09...	--	--	--	--	--	--	--	--	--	--
JUL 23...	--	--	--	--	--	--	--	--	--	--
AUG 25...	80	20	0	40	<1	<1	<1	<10	<3	10

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT 16...	--	--	190	170	20	--	--	--	--	40
DEC 03...	<10	--	460	400	60	--	<10	--	<4	60
JAN 09...	--	--	170	90	80	--	--	--	--	30
FEB 24...	<10	--	1200	1200	36	--	<10	--	<4	150
APR 30...	<10	--	280	240	41	--	51	--	<4	40
JUN 09...	--	--	500	450	50	--	--	--	--	60
JUL 23...	--	--	210	150	60	--	--	--	--	20
AUG 25...	<10	4	310	260	51	3700	11	<10	<4	30

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
OCT 16...	30	8	--	--	--	--	--	--	--	--
DEC 03...	30	27	--	--	<10	--	35	<6.0	4	--
JAN 09...	0	30	--	--	--	--	--	--	--	--
FEB 24...	80	72	--	--	<10	--	27	<6.0	<4	--
APR 30...	20	19	--	--	<10	--	35	<6.0	<4	--
JUN 09...	40	20	--	--	--	--	--	--	--	--
JUL 23...	10	10	--	--	--	--	--	--	--	--
AUG 25...	10	18	530	<.01	<10	<1	38	<6.0	17	31

KANAWHA RIVER BASIN

03192000 GAULEY RIVER ABOVE BELVA, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	78	59	68	58	---	---	204	60
2				---	84	60	68	59	---	---	209	53
3				---	89	64	68	57	---	---	205	56
4				---	111	60	66	57	---	---	204	58
5				---	110	63	68	57	---	---	214	72
6				---	106	69	71	58	---	---	220	45
7				85	81	67	71	60	---	---	213	47
8				87	83	67	67	58	---	---	207	69
9				90	83	60	69	57	---	---	---	79
10				90	85	61	73	57	---	---	---	93
11				85	87	64	75	58	---	---	---	90
12				83	84	66	79	58	---	---	---	95
13				83	84	68	74	55	---	---	---	92
14				83	83	69	68	55	---	---	73	89
15				83	74	70	68	57	---	---	97	90
16				84	74	71	68	58	---	---	94	98
17				85	73	73	69	59	64	---	---	118
18				86	71	70	69	60	---	---	---	120
19				88	68	69	69	60	---	---	---	118
20				90	74	70	69	57	---	---	---	104
21				89	65	73	69	56	---	---	---	89
22				88	---	75	68	58	---	---	---	106
23				93	---	75	68	61	---	193	---	118
24				93	---	75	68	60	---	239	---	111
25				90	---	75	68	59	---	223	---	102
26				90	---	72	66	---	---	214	---	107
27				90	58	68	66	---	---	214	---	103
28				77	56	67	66	---	---	220	---	96
29				78	---	68	67	---	---	228	---	102
30				79	---	67	64	---	---	220	---	115
31				80	---	68	---	---	---	205	63	---
MEAN				86	81	68	69	58		217		90

KANAWHA RIVER BASIN

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03193000 KANAWHA RIVER AT KANAWHA FALLS, WV

LOCATION.--Lat 38°08'20", long 81°12'45", Fayette County, Hydrologic Unit 05050006, on right bank 150 ft (46 m) downstream from bridge (corrected), 0.8 mi (1.3 km) downstream from village of Kanawha Falls, 2.0 mi (3.2 km) downstream from Gauley Bridge, 2.0 mi (3.2 km) downstream from confluence of New River and Gauley River, and at mile 94.5 (152.1 km).

DRAINAGE AREA.--8,367 mi² (21,671 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1877 to current year. October 1916 to September 1918 and October 1927 to October 1928, published as "at Lock 2, Montgomery".

REVISED RECORDS.--WSP 783: Drainage area. WSP 923: 1878, 1886, 1897, 1899, 1901-3. WSP 1305: 1902(M), 1940. WSP 1335: 1931.

GAGE.--Water-stage recorder. Datum of gage is 621.20 ft (189.342 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1928, nonrecording gages at several sites within 9.0 mi (14.5 km) of present site at various datums. Oct. 27, 1928, to Sept. 30, 1964, water-stage recorder at present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Water-discharge records good. Flow regulated since 1939 by Claytor Lake (station 03169000), since 1949 by Bluestone Lake (station 03179800), and since 1965 by Summersville Lake (station 03189590). Corps of Engineers gage-height telemeter and Appalachian Power Co. remote sender at station.

AVERAGE DISCHARGE.--104 years, 12,558 ft³/s (355.6 m³/s), 20.38 in/yr (518 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 320,000 ft³/s (9,060 m³/s) Sept. 14, 1878, gage height, 37.8 ft (11.52 m), site and datum then in use, from gage-height relation and rating curve extended above 150,000 ft³/s (4,200 m³/s); minimum, 640 ft³/s (18.1 m³/s) Aug. 15, 1930, gage height, -0.95 ft (-0.290 m), datum then in use; minimum daily, 690 ft³/s (19.5 m³/s) Oct. 29, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 81,000 ft³/s (2,290 m³/s) May 29, gage height, 15.17 ft (4.624 m); minimum, 1,280 ft³/s (36.2 m³/s) Dec. 23, gage height, 1.74 ft (0.530 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2280	5180	7160	5230	4530	14900	13700	8800	39300	3450	3750	2330
2	2960	4640	5290	5200	5370	16500	15900	9340	34400	5290	3320	2300
3	3270	3900	6470	3800	9220	13100	14700	8250	39000	5400	2650	2730
4	4120	2390	6700	4740	15600	11600	12500	7550	33800	4480	2390	3040
5	5200	2230	6580	2860	14500	13600	9460	6490	37000	4380	2520	7490
6	5070	3630	6840	2190	11700	19800	9700	6870	34200	5180	3150	9980
7	4350	3630	6520	3850	8110	19500	9380	6040	51500	10300	3170	7220
8	4120	3590	5480	3430	6810	17700	10000	6290	44000	11300	4930	5990
9	5310	3470	5230	3020	6470	11900	11000	6290	25400	9700	3320	5310
10	5310	3170	4100	2780	4770	10500	8430	5180	28200	6350	3430	3820
11	5230	2980	5180	2520	7220	11500	8220	5540	32800	5400	2540	3500
12	5870	3450	6100	2610	20700	10300	7050	21800	29100	4330	3380	3410
13	3800	3150	5990	2460	26100	9140	9140	24700	19700	3850	2980	4380
14	3270	3040	8910	2610	19500	7310	9660	17300	17100	3150	3130	3080
15	3900	4020	5790	2280	13800	6150	11700	16100	11900	3750	2820	2740
16	3680	3900	3970	2710	12400	5820	11100	18900	9620	4530	3230	2520
17	3300	3320	3450	2310	8500	6610	13400	13700	9580	5650	3360	2570
18	3230	3000	3630	2180	14000	7080	21900	11900	8180	4910	2760	2550
19	3150	2840	3540	2090	15500	7840	24200	18400	6490	4740	2210	3970
20	2960	4960	3750	2180	20800	7710	20800	53500	8150	3040	2520	5480
21	3040	4640	3520	2300	30600	6760	22300	50400	9380	3410	2390	4270
22	2880	5370	2940	2760	34600	6040	24700	37400	6010	3380	2420	2590
23	3500	5310	1920	3410	34900	5990	19500	27600	6730	3270	2420	2630
24	4220	5900	2650	4510	37000	6490	17100	20200	6700	3040	2420	3360
25	5090	10900	3540	4070	33800	10100	18100	11800	5450	3190	2190	2280
26	5230	13400	3540	3660	24100	13600	13600	12500	5430	3000	1960	3800
27	4270	13500	3320	4560	17100	14800	13900	10600	5310	2880	2110	4120
28	5620	13300	2350	7020	15000	17700	9780	14100	4640	2400	2330	3780
29	6130	10300	2240	6410	---	19900	10200	57800	4170	3970	2540	3780
30	4800	10300	2140	5290	---	13800	9380	68300	3630	6960	2540	3920
31	4720	---	4380	4880	---	10400	---	51500	---	4480	2330	---
TOTAL	129880	163410	143220	109920	472700	354140	410500	635140	576870	149160	87210	118940
MEAN	4190	5447	4620	3546	16880	11420	13680	20490	19230	4812	2813	3965
MAX	6130	13500	8910	7020	37000	19900	24700	68300	51500	11300	4930	9980
MIN	2280	2230	1920	2090	4530	5820	7050	5180	3630	2400	1960	2280
CAL YR 1980 TOTAL	4458040			MEAN 12180	MAX 59200	MIN 1920	CFSM 1.46	IN 19.82				
WTR YR 1981 TOTAL	3351090			MEAN 9181	MAX 68300	MIN 1920	CFSM 1.10	IN 14.90				

KANAWHA RIVER BASIN

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1957 to September 1966, July 1968 to current year.

INSTRUMENTATION.--Temperature recorder since Dec. 7, 1957.

REMARKS.--Interruptions in water temperature record due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C Aug. 1-7, 1975; minimum, 0.0°C on several days during 1958-60, 1963, 1971, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 27.0°C July 18-20, 27-29; minimum, 2.0°C many days in December, January, and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
NOV											
05...	1000	2290	150	7.4	11.5	--	53	20	--	13	5.0
JAN											
28...	1535	6990	73	6.6	3.5	12.5	26	16	<.1	6.0	2.7
MAR											
19...	1100	7680	95	7.3	4.0	11.8	29	14	.0	6.9	2.8
APR											
30...	1300	9180	112	7.4	14.5	10.2	41	18	.0	11	3.3
JUN											
24...	1430	6210	135	7.4	23.0	8.3	49	19	.0	12	4.6
JUL											
20...	0905	3020	155	7.0	27.0	--	56	--	.0	14	5.1
AUG											
13...	1445	2740	154	7.7	26.0	7.0	67	27	.0	16	6.6
SEP											
01...	1530	2180	149	7.5	23.0	7.7	55	21	.0	13	5.4

DATE	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM AD- SORP- TION RATIO	ALKA- LITY FIELD (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 100 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
NOV											
05...	4.6	.3	40	19	3.9	--	69	--	.09	427	--
JAN											
28...	3.6	.3	12	15	3.4	3.9	44	44	.06	830	<.010
MAR											
19...	3.8	.3	18	16	4.0	3.7	49	49	.07	1020	<.010
APR											
30...	3.4	.2	28	14	3.6	5.3	71	57	.10	1760	<.010
JUN											
24...	4.9	.3	36	16	3.6	--	73	--	.10	1220	--
JUL											
20...	5.3	.3	47	20	4.3	--	94	--	.13	766	--
AUG											
13...	6.9	.4	48	20	5.1	--	100	--	.14	740	--
SEP											
01...	4.1	.3	41	20	4.8	4.0	91	74	.12	536	<.010

KANAWHA RIVER BASIN

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03193000 KANAWHA RIVER AT KANAWHA FALLS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
NOV 05...	--	--	--	--	--	--	--	--	--	--	310
JAN 28...	<.03	.66	.080	<.010	<.03	40	<1	2	<3	<10	330
MAR 19...	--	.72	.030	.010	.03	40	<1	<1	<3	<10	300
APR 30...	--	.56	.050	<.010	--	40	<1	<1	<3	<10	340
JUN 24...	--	--	--	--	--	--	--	--	--	--	380
JUL 20...	--	--	--	--	--	--	--	--	--	--	250
AUG 13...	--	--	--	--	--	--	--	--	--	--	300
SEP 01...	--	.45	.040	<.010	--	20	1	1	3	10	220

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 05...	260	50	--	--	30	10	20	--	--	--	--
JAN 28...	290	39	<10	<4	60	30	33	<10	46	<6.0	7
MAR 19...	280	21	<10	<4	140	110	32	<10	53	<6.0	<4
APR 30...	320	25	<10	<4	50	20	28	<10	67	<6.0	4
JUN 24...	360	20	--	--	60	50	10	--	--	--	--
JUL 20...	210	40	--	--	20	--	<10	--	--	--	--
AUG 13...	290	10	--	--	40	40	5	--	--	--	--
SEP 01...	200	22	10	4	30	20	7	10	95	6.0	4

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	12.0	12.0	7.5	7.0	3.5	3.0	3.0	2.5	5.5	5.0
2	---	---	12.0	11.5	7.5	7.0	3.5	3.5	3.0	2.5	5.5	5.5
3	---	---	11.5	11.0	7.0	6.5	3.5	3.0	3.0	2.0	5.5	5.0
4	---	---	12.0	11.0	6.5	6.0	3.0	2.0	2.0	2.0	5.0	4.5
5	---	---	12.0	11.0	6.0	6.0	2.0	2.0	2.0	2.0	4.5	4.5
6	---	---	12.0	11.5	6.0	6.0	2.0	2.0	2.0	2.0	4.5	4.5
7	18.0	17.5	11.5	11.0	7.0	6.0	2.0	2.0	2.0	2.0	4.5	4.5
8	17.5	17.5	11.5	11.5	7.0	6.5	2.0	2.0	2.5	2.0	4.5	4.5
9	18.0	17.5	11.5	11.5	7.0	7.0	2.0	2.0	2.5	2.0	4.5	4.5
10	18.5	18.0	12.0	11.5	7.5	7.0	2.0	2.0	2.0	2.0	4.5	4.5
11	18.5	18.0	12.0	11.5	7.5	7.0	2.0	2.0	3.0	2.0	4.5	4.5
12	18.0	15.5	11.5	11.0	7.0	6.5	2.0	2.0	2.5	2.0	5.0	4.5
13	18.0	17.5	11.0	10.5	6.5	6.5	2.0	2.0	2.0	2.0	5.5	5.0
14	17.5	17.0	10.5	10.5	6.5	6.0	2.0	2.0	2.0	2.0	5.5	5.5
15	17.0	16.5	10.5	10.0	6.0	6.0	2.0	2.0	2.0	2.0	5.5	5.5
16	17.0	16.5	10.0	9.5	6.0	6.0	2.0	2.0	2.5	2.0	5.5	5.5
17	16.5	16.5	9.5	9.5	6.0	6.0	2.0	2.0	3.5	2.5	5.5	5.0
18	16.5	16.5	9.5	9.5	6.0	5.5	2.0	2.0	3.5	3.5	5.0	4.5
19	17.0	16.5	9.5	9.0	5.5	5.0	2.0	2.0	3.5	3.5	4.5	4.0
20	17.0	16.5	9.0	8.5	5.0	4.5	2.0	2.0	4.0	3.5	4.5	4.0
21	16.5	16.0	8.5	8.0	4.5	3.5	2.0	2.0	5.0	4.0	4.5	4.0
22	16.5	16.5	8.0	7.5	3.5	3.0	2.0	2.0	5.0	4.0	4.5	4.5
23	16.5	16.5	7.5	7.0	3.0	3.0	2.0	2.0	4.5	4.5	5.0	4.5
24	16.5	15.0	8.0	7.0	3.0	2.5	2.0	2.0	4.5	4.5	5.5	5.0
25	15.0	14.5	8.5	8.0	2.5	2.0	2.5	2.0	5.0	4.5	6.5	5.5
26	14.5	13.5	8.0	8.0	2.0	2.0	2.5	2.0	5.0	5.0	6.5	6.0
27	13.5	13.0	8.0	8.0	2.0	2.0	3.5	2.5	5.0	5.0	6.0	6.0
28	13.0	12.5	8.0	8.0	2.0	2.0	3.5	3.5	5.0	5.0	6.0	6.0
29	12.5	12.0	8.0	7.5	2.0	2.0	3.5	3.5	---	---	6.5	6.0
30	13.0	12.5	7.5	7.5	2.0	2.0	3.5	3.0	---	---	8.0	6.5
31	12.5	12.0	---	---	3.0	2.0	3.0	3.0	---	---	10.5	8.0
MONTH	18.5	12.0	12.0	7.0	7.5	2.0	3.5	2.0	5.0	2.0	10.5	4.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	10.5	14.5	14.0	14.0	13.5	23.0	23.0	24.0	23.5	23.5	23.5
2	12.0	11.5	14.0	14.0	15.0	14.0	23.0	23.0	24.0	24.0	23.5	23.0
3	12.0	11.5	14.0	13.5	15.5	15.0	23.0	23.0	24.5	24.0	23.0	23.0
4	12.5	12.0	14.0	13.0	16.0	15.5	23.0	23.0	25.0	24.5	23.0	23.0
5	13.0	12.5	15.0	14.0	15.5	15.0	---	---	25.5	25.0	23.5	23.0
6	13.0	12.5	15.5	14.5	16.0	15.5	---	---	25.5	25.5	23.5	23.0
7	12.5	11.5	16.0	15.5	16.0	15.0	23.0	22.0	25.5	25.5	24.0	23.0
8	12.0	11.0	16.0	15.0	16.5	15.5	22.5	22.0	25.5	23.5	23.5	23.0
9	12.5	11.5	16.0	15.0	17.5	16.5	23.5	22.0	24.0	23.5	23.0	23.0
10	13.0	12.5	16.0	16.0	17.5	16.5	23.5	23.5	25.0	24.0	---	---
11	13.0	12.5	16.5	16.0	16.5	16.5	25.0	23.5	25.0	25.0	---	---
12	14.0	13.0	16.0	11.5	18.0	16.5	25.0	25.0	25.5	25.0	---	---
13	14.5	14.0	12.5	10.5	19.0	18.5	25.0	25.0	25.5	25.5	---	---
14	15.0	14.5	14.0	12.5	20.0	18.0	26.0	25.0	25.5	25.5	---	---
15	14.5	13.5	14.5	13.0	21.0	20.0	26.5	26.0	25.5	25.0	---	---
16	14.0	13.0	13.0	12.0	22.0	21.0	26.5	26.5	25.5	25.5	---	---
17	13.5	12.5	13.5	13.0	23.0	22.0	26.5	26.5	25.5	25.5	---	---
18	13.0	12.0	14.0	13.5	23.0	23.0	27.0	26.0	25.5	25.0	---	---
19	13.0	11.0	14.5	12.0	23.0	23.0	27.0	26.5	25.0	24.5	---	---
20	11.0	10.0	12.0	11.5	23.0	23.0	27.0	26.5	24.5	24.0	---	---
21	10.5	10.0	12.0	11.5	23.0	23.0	---	---	24.5	24.0	---	---
22	12.0	10.5	12.5	12.0	23.0	23.0	---	---	24.5	24.0	---	---
23	12.5	11.5	13.5	12.5	23.0	22.5	---	---	24.0	23.5	---	---
24	12.5	11.0	15.5	13.5	23.0	22.0	---	---	23.5	23.5	---	---
25	11.0	10.5	16.0	15.5	23.5	23.0	---	---	23.5	23.5	---	---
26	10.5	10.0	17.5	16.0	23.5	23.5	---	---	23.5	23.5	---	---
27	11.5	10.5	17.5	17.0	23.5	23.5	27.0	27.0	23.5	23.5	---	---
28	13.0	11.5	18.0	17.0	23.5	23.0	27.0	27.0	23.5	23.5	---	---
29	14.5	13.0	17.5	13.5	23.0	23.0	27.0	26.0	23.5	23.5	---	---
30	15.0	14.0	13.5	13.0	23.0	23.0	26.0	23.0	23.5	23.5	---	---
31	---	---	13.5	13.5	---	---	23.5	23.0	23.5	23.5	---	---
MONTH	15.0	10.0	18.0	10.5	23.5	13.5	27.0	22.0	25.5	23.5	24.0	23.0
YEAR	27.0	2.0										

KANAWHA RIVER BASIN

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03193742 KANAWHA RIVER AT GLASGOW, WV

LOCATION.--Lat 38°12'23", long 81°25'30", Kanawha County, Hydrologic Unit 05050006, on right bank at Glasgow Power Plant, at Glasgow, 0.6 mi (1.0 km) upstream from Kellys Creek, and at mile 78.4 (126 km).

DRAINAGE AREA.--8,631 mi² (22,354 km).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: July 1977 to current year.

COOPERATION.--Records were furnished by Appalachian Electric Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 30°C Aug. 21, 1978, Aug. 3, 1981; minimum daily, 0.0°C Feb. 8, 1979, Mar. 4, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily 30.0°C Aug. 3; minimum daily, 0.5°C several days in January and February.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.5	---	---	2.0	3.5	---	---	13.5	15.5	24.0	24.0	---
2	21.0	---	---	---	3.5	6.5	11.5	13.5	16.0	24.5	29.0	---
3	---	12.0	---	2.0	---	6.0	12.0	13.5	16.5	24.5	30.0	25.0
4	20.0	---	6.0	1.5	.5	6.0	12.0	14.5	16.5	24.0	23.0	---
5	---	---	5.0	1.5	.5	5.5	14.0	15.5	17.0	24.5	26.5	---
6	---	11.5	6.0	---	1.0	6.0	15.5	16.5	17.0	24.5	26.5	---
7	18.5	12.0	6.0	---	1.5	7.0	14.0	15.5	18.0	24.5	---	---
8	19.5	12.0	6.0	.5	3.0	6.5	15.5	15.5	18.5	24.5	---	---
9	14.0	11.0	7.0	---	2.0	7.0	12.0	16.5	18.5	23.5	26.0	---
10	19.0	12.0	7.0	---	3.5	8.0	12.0	16.5	20.0	24.5	25.5	---
11	19.0	11.0	6.5	---	4.5	8.0	12.0	17.0	18.0	25.0	24.5	---
12	14.0	11.0	6.5	---	---	4.5	12.0	16.5	19.5	---	24.5	---
13	---	11.0	6.0	---	.5	5.5	14.5	14.0	19.5	25.5	25.5	---
14	14.0	12.0	5.5	---	1.0	5.5	15.0	14.5	20.0	25.5	---	---
15	17.0	13.5	6.5	1.0	1.0	5.5	15.5	15.5	20.5	26.0	26.0	23.5
16	14.0	13.5	5.5	.5	1.5	6.5	---	---	22.0	26.0	25.5	23.0
17	17.0	10.0	5.5	1.0	3.5	5.5	---	---	25.5	27.0	26.0	23.0
18	17.0	10.0	5.5	.5	3.5	5.5	---	15.5	23.5	---	25.5	22.0
19	17.0	10.0	5.5	1.0	4.5	5.0	---	15.5	24.0	---	25.5	21.5
20	17.0	8.5	5.0	1.0	---	4.5	14.0	14.5	24.5	28.0	25.5	21.0
21	19.0	8.0	4.5	1.5	---	---	11.0	13.5	24.5	28.0	24.5	20.5
22	18.0	9.0	4.0	2.0	---	---	12.0	14.5	---	28.0	---	20.0
23	---	7.0	4.0	1.5	---	4.0	12.0	---	23.5	28.0	24.0	19.5
24	17.0	7.0	2.0	---	5.5	5.0	13.5	---	23.5	28.0	---	18.5
25	16.5	7.0	1.5	---	5.0	6.0	---	17.0	23.5	26.5	---	18.5
26	14.0	---	1.5	1.5	5.5	6.0	12.0	18.0	---	22.0	---	19.0
27	13.5	---	1.5	1.5	5.5	---	12.0	19.5	---	24.5	21.0	19.0
28	14.0	---	1.0	3.0	---	6.5	13.5	19.5	---	28.0	---	19.0
29	14.0	---	1.0	1.5	---	6.0	14.0	19.0	24.0	28.0	---	20.0
30	---	---	---	3.5	---	8.0	14.0	15.0	24.0	27.0	---	19.0
31	---	---	---	3.5	---	9.0	---	15.0	---	28.5	---	---
MEAN	17.5	10.5	4.5	1.5	3.0	6.0	13.0	15.5	20.5	26.0	25.5	20.5
WTR YR 1981	MEAN	14.0		MAX	30.0	MIN	.5					

KANAWHA RIVER BASIN

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV

LOCATION.--Lat 38°35'50", long 80°29'20", Webster County, Hydrologic Unit 05050007, on right bank 200 ft (61 m) upstream from bridge on County Highway 7, 6.5 mi (10.5 km) upstream from town of Centralia, 8.9 mi (14.3 km) southwest of Salisburg Station, 8.9 mi (14.3 km) northwest of Webster Springs, and at mile 122.7 (197.4 km).

DRAINAGE AREA.--268 mi² (694 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,020 ft (311 m), by barometer.

REMARKS.--Water-discharge records good except those for February, which are fair, and December and January, which are poor. Corps of Engineers gage-height telemeter at station. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

AVERAGE DISCHARGE.--22 years, 702 ft³/s (19.88 m³/s), 35.57 in/yr (903 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,900 ft³/s (677 m³/s) June 2, 1974, gage height, 13.97 ft (4.258 m), from rating curve extended above 11,000 ft³/s (310 m³/s); minimum, 6.5 ft³/s (0.18 m³/s) Oct. 1, 1959; minimum gage height, 3.00 ft (0.914 m) Oct. 13, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1861, probably in September, reached a stage of 26.34 ft (8.028 m) and flood of July 26, 1896, reached a stage of 25.87 ft (7.885 m), present datum, at site 0.2 mi (0.3 km) upstream, from levels to flood marks pointed out by a local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,800 ft³/s (221 m³/s) Feb. 21, gage height, 8.91 ft (2.716 m), no peak above base of 8,500 ft³/s (240 m³/s); minimum, 24 ft³/s (0.68 m³/s) Sept. 1, gage height, 2.95 ft (0.899 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	304	464	340	350	2010	1540	992	1180	244	296	25
2	108	248	606	332	1220	1680	1530	1110	1090	352	204	29
3	102	207	1350	320	1350	1170	1210	891	1020	319	215	46
4	110	186	1060	220	820	849	918	693	2700	261	469	180
5	125	192	786	190	580	934	931	552	2360	289	388	646
6	103	178	647	210	470	1380	1360	470	5050	900	415	351
7	91	157	553	340	390	1100	1110	530	3720	862	905	204
8	82	145	501	280	350	815	878	443	1900	563	680	191
9	74	139	497	220	310	642	771	382	1160	401	456	551
10	67	177	1150	190	290	518	939	335	2400	321	315	325
11	66	189	1050	170	2130	440	801	349	2220	317	232	214
12	71	170	808	190	2320	390	690	390	1220	243	205	157
13	67	154	644	230	1380	369	652	420	842	199	203	123
14	56	143	509	280	994	397	562	648	684	193	155	103
15	51	137	414	258	733	388	810	1550	495	165	128	133
16	47	136	365	217	646	485	881	1700	372	142	127	552
17	45	146	326	186	869	546	970	1230	312	133	157	433
18	45	1050	274	160	1600	530	1980	975	270	116	112	295
19	46	1000	255	150	2210	460	1750	1980	223	101	94	239
20	53	681	210	130	2870	398	1360	2230	415	110	80	222
21	51	482	140	170	6150	364	1140	2010	501	151	67	179
22	46	377	110	205	3070	317	883	1260	481	140	58	145
23	42	310	180	229	3100	319	730	822	787	156	51	123
24	40	1500	217	215	3190	412	664	581	508	110	45	111
25	63	3060	280	198	1880	621	672	430	350	247	40	98
26	379	1710	230	249	1270	939	661	347	370	235	36	91
27	273	1080	230	599	907	2690	623	298	319	188	34	83
28	208	795	242	747	746	3460	545	945	244	204	31	72
29	616	664	254	600	---	2200	483	2990	191	776	28	62
30	537	544	306	460	---	2570	543	1540	160	690	26	57
31	387	---	335	360	---	2180	---	1370	---	443	25	---
TOTAL	4173	16261	14993	8645	42195	31573	28587	30463	33544	9571	6277	6040
MEAN	135	542	484	279	1507	1018	953	983	1118	309	202	201
MAX	616	3060	1350	747	6150	3460	1980	2990	5050	900	905	646
MIN	40	136	110	130	290	317	483	298	160	101	25	25
CFSM	.50	2.02	1.81	1.04	5.62	3.80	3.56	3.67	4.17	1.15	.75	.75
IN.†	.58	2.26	2.08	1.20	5.86	4.38	3.97	4.23	4.66	1.33	.87	.84
IN.‡	2.88	4.41	1.92	.57	4.64	2.51	4.04	7.22	6.75	4.29	2.31	6.01

CAL YR 1980 TOTAL 231454 MEAN 632 MAX 4600 MIN 40 CFSM 2.36 IN 32.13
WTR YR 1981 TOTAL 232322 MEAN 636 MAX 6150 MIN 25 CFSM 2.37 IN 32.25

† Runoff.

‡ Rainfall.

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1974 to June 1977, November 1977 to current year.

INSTRUMENTATION.--Temperature recorder since Feb. 13, 1974.

REMARKS.--Interruptions in water-temperature record due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 31.0°C Aug. 1, 2, 1975; minimum, 0.0°C on many days during winter periods

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 29.0°C July 18, 20, 28; minimum, 0.5°C Feb. 7, 10, 12, 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPR- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 17...	0745	41	88	7.1	12.0	35	--	--	10	2.4	2.7
DEC 02...	1145	629	75	7.0	6.5	25	13	.0	7.0	1.7	1.6
JAN 13...	1050	250	82	6.3	.0	28	14	<.1	7.8	2.0	2.3
FEB 19...	1215	2240	60	7.2	6.0	22	14	.0	6.5	1.3	1.0
APR 01...	1245	1480	60	6.6	9.0	22	15	<.1	6.6	1.4	1.2
MAY 28...	1400	345	75	7.2	18.0	28	--	--	8.2	1.9	1.9
JUL 20...	1110	113	94	7.8	27.0	37	--	--	11	2.2	2.3
SEP 08...	1300	226	65	7.1	21.0	--	--	--	--	--	--

[illegible]

KANAWHA RIVER BASIN

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 17...	5.6	--	--	--	--	--	--	--	--	--	450
DEC 02...	71.3	--	--	--	--	40	<0	<1	<3	<10	120
JAN 13...	27.7	--	--	--	--	--	--	--	--	--	190
FEB 19...	206	<.010	1.2	.040	<.010	40	<1	<1	<3	<10	610
APR 01...	160	<.010	1.1	.030	<.010	50	<1	<1	<3	<10	250
MAY 28...	39.1	--	--	--	--	--	--	--	--	--	190
JUL 20...	18.3	--	--	--	--	--	--	--	--	--	230

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 17...	360	90	--	--	30	10	20	--	--	--	--
DEC 02...	100	22	<10	<4	10	6	4	<1	30	<6.0	<4
JAN 13...	160	30	--	--	20	10	10	--	--	--	--
FEB 19...	600	14	<10	<4	0	0	6	<10	27	<6.0	7
APR 01...	240	14	<10	<4	30	20	8	<10	29	<6.0	33
MAY 28...	140	50	--	--	10	0	20	--	--	--	--
JUL 20...	200	30	--	--	30	20	10	--	--	--	--

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	12.5	10.5	13.0	10.0	2.0	1.0	1.5	1.0	6.5	5.5
2	---	---	11.5	10.0	12.0	11.5	2.0	1.0	1.0	1.0	5.5	4.5
3	---	---	12.5	8.5	11.5	8.5	1.5	1.0	1.0	1.0	4.5	3.5
4	---	---	14.5	12.5	8.5	7.0	1.0	1.0	1.0	1.0	3.5	3.0
5	---	---	15.0	14.5	10.5	8.0	1.0	1.0	1.0	1.0	4.5	3.5
6	---	---	14.5	13.0	12.0	10.5	1.0	1.0	1.0	1.0	4.5	4.0
7	---	---	15.0	12.5	13.0	11.5	1.5	1.0	1.0	.5	4.0	3.0
8	---	---	17.0	14.0	13.5	12.0	1.0	1.0	1.0	1.0	3.0	2.5
9	---	---	17.0	15.5	13.0	12.5	1.5	1.0	1.0	1.0	3.5	3.0
10	---	---	17.0	15.5	12.5	9.5	1.5	1.0	1.0	.5	3.5	3.0
11	---	---	16.0	12.5	9.5	7.0	1.5	1.0	3.0	1.5	4.0	3.5
12	---	---	13.0	11.5	7.5	6.5	1.5	1.0	1.5	.5	6.0	3.0
13	---	---	13.0	11.0	7.5	6.5	1.0	1.0	1.5	.5	6.5	4.0
14	---	---	12.5	11.5	7.0	5.5	2.0	1.5	3.0	1.5	6.5	5.0
15	---	---	13.5	12.0	5.5	4.5	2.0	1.5	4.0	2.0	6.5	3.5
16	---	---	13.0	11.5	5.0	4.5	2.0	1.0	5.0	3.0	6.0	4.0
17	---	---	11.5	10.0	4.5	3.5	1.5	1.5	6.0	5.0	3.5	2.0
18	---	---	12.0	10.5	4.0	3.0	2.0	1.0	7.0	5.5	2.0	1.5
19	---	---	10.5	9.5	4.0	3.0	2.0	1.0	7.0	6.0	2.0	1.0
20	---	---	13.5	9.5	3.0	1.5	2.0	1.0	7.0	6.0	2.0	1.0
21	---	---	15.0	13.5	1.5	1.5	1.5	1.0	6.0	5.5	2.5	1.5
22	---	---	15.0	12.5	2.0	1.5	1.5	1.0	7.5	5.0	3.0	1.5
23	---	---	14.5	13.0	2.0	1.5	1.5	1.0	8.0	6.0	5.0	2.5
24	---	---	16.0	13.5	3.0	1.5	1.5	1.0	6.0	4.5	6.5	3.5
25	---	---	13.5	10.5	1.5	1.0	1.5	1.0	5.5	4.5	8.0	5.5
26	---	---	10.5	8.5	1.0	1.0	1.5	1.0	5.5	4.5	6.5	5.5
27	---	---	10.0	8.5	2.5	1.0	1.5	1.0	5.5	3.5	7.0	6.0
28	16.0	10.5	11.5	10.0	2.5	1.0	1.5	1.0	6.0	5.0	7.5	4.5
29	13.0	12.0	11.0	10.0	2.5	1.0	1.5	1.0	---	---	9.0	6.5
30	12.5	11.0	11.5	9.5	2.5	1.0	1.5	1.0	---	---	9.5	8.5
31	12.0	10.0	---	---	2.0	1.0	1.0	1.0	---	---	10.0	7.5
MONTH	16.0	10.0	17.0	8.5	13.5	1.0	2.0	1.0	8.0	.5	10.0	1.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	8.5	14.5	11.0	15.5	14.0	23.0	22.0	24.5	21.0	27.5	23.5
2	10.0	8.0	11.0	9.5	16.5	15.0	22.0	20.0	24.5	22.0	27.5	24.0
3	11.0	9.0	12.5	9.0	18.0	16.0	22.5	20.0	24.0	23.0	27.0	24.5
4	13.0	11.0	15.0	11.0	17.5	15.5	23.0	20.5	25.0	22.5	26.0	24.5
5	12.5	11.0	16.5	13.5	17.0	15.0	22.5	21.0	26.0	23.5	25.0	22.0
6	10.5	8.0	16.0	14.0	17.0	15.0	21.5	19.0	25.5	23.0	22.5	21.0
7	9.0	6.0	15.5	12.5	17.0	14.0	21.5	18.5	23.0	21.5	24.0	21.0
8	11.5	8.0	16.0	12.5	17.0	14.5	23.5	20.5	24.0	21.5	23.0	21.0
9	12.0	11.0	17.5	13.5	17.5	16.5	23.5	22.0	24.0	21.5	21.0	18.5
10	11.0	9.5	18.0	15.5	17.5	16.5	24.5	22.5	25.0	22.0	20.0	17.0
11	13.0	10.5	17.5	14.0	18.0	16.0	26.0	22.5	25.5	22.5	20.5	17.5
12	14.5	12.5	13.5	10.0	18.5	16.5	26.5	23.5	26.0	23.5	22.5	19.5
13	16.0	13.5	12.5	9.0	19.5	18.0	26.0	24.0	24.5	22.5	23.5	20.0
14	15.5	14.0	15.5	12.5	22.0	19.0	26.0	24.0	25.0	22.5	24.0	21.0
15	14.0	11.0	15.5	11.5	23.5	21.0	27.0	23.5	25.0	23.0	22.5	21.5
16	12.0	9.5	11.5	10.5	25.5	22.0	25.5	24.0	27.0	24.0	21.0	18.0
17	12.0	11.0	13.5	10.0	24.5	23.0	28.0	24.0	25.0	23.0	18.0	17.0
18	13.5	10.5	13.0	11.5	24.0	20.5	29.0	24.5	25.5	21.0	17.0	15.5
19	13.0	11.5	11.5	10.5	24.5	22.0	28.5	25.5	25.0	21.0	15.5	14.5
20	12.0	10.0	12.5	10.0	23.5	20.5	29.0	26.0	26.5	20.5	17.0	14.0
21	10.5	8.5	13.0	10.5	22.0	19.5	27.5	26.5	25.0	20.5	19.0	16.0
22	11.0	9.5	14.0	12.0	22.0	20.0	28.0	25.5	26.5	20.5	18.5	17.0
23	13.0	11.0	16.0	13.0	21.0	19.0	27.5	24.5	26.5	20.5	18.0	16.0
24	12.5	10.5	17.5	14.0	22.5	18.5	28.0	25.0	26.5	21.0	18.5	15.0
25	10.5	9.0	18.5	16.5	23.5	20.5	26.5	24.5	27.0	22.5	18.5	14.5
26	11.0	8.5	19.5	17.0	23.0	21.0	27.0	24.5	27.0	21.0	20.0	16.0
27	14.5	10.5	19.5	18.0	22.5	18.5	27.5	25.5	26.0	21.5	19.5	17.0
28	17.5	14.0	19.0	15.0	23.5	19.0	29.0	25.5	27.0	21.5	20.5	16.5
29	16.5	15.5	14.5	13.0	24.0	20.5	26.5	21.0	27.0	21.5	19.5	15.0
30	16.0	14.5	15.5	13.0	24.5	22.5	22.5	19.0	27.5	22.5	19.5	16.5
31	---	---	15.5	14.5	---	---	23.5	20.0	28.0	23.0	---	---
MONTH	17.5	6.0	19.5	9.0	25.5	14.0	29.0	18.5	28.0	20.5	27.5	14.0
YEAR	29.0	.5										

KANAWHA RIVER BASIN

03195100 RIGHT FORK HOLLY RIVER AT GUARDIAN, WV

LOCATION.--Lat 38°38'08", long 80°27'58", Webster County, Hydrologic Unit 05050007, on right bank at Guardian, 50 ft (15 m) upstream from Bear Run, and at mile 8.1 (13.0 km).

DRAINAGE AREA.--51.1 mi² (132.3 km²).

PERIOD OF RECORD.--March 1974 to September 1978. October 1978 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only).

GAGE.--Water-stage recorder. Datum of gage is 1,078.00 ft (328.574 m) National Geodetic Vertical Datum of 1929.

REMARKS.--No gage-height record Nov. 7 to Dec. 1 and Apr. 22 to May 27 due to instrument malfunctions. Records for winter periods not adjusted for ice effect. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft³/s (181 m³/s) July 16, 1979, gage height, 14.50 ft (4.420 m), from rating curve extended above 2,600 ft³/s (74 m³/s); minimum, 1.6 ft³/s (0.045 m³/s) Aug. 26, 27, 1976, gage height, 2.68 ft (0.817 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,500 ft³/s (70.8 m³/s) Feb. 21, gage height, 9.92 ft (3.024 m); minimum gage height, 3.10 ft (0.945 m) Aug. 28, 31.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.37	3.67	---	4.07	4.12	5.07	4.34	---	4.42	3.60	3.57	3.16
2	3.36	3.60	4.35	4.06	5.27	5.04	4.73	---	4.48	3.60	3.48	3.28
3	3.39	3.55	4.59	4.01	5.25	4.68	4.60	---	4.43	3.50	3.73	3.36
4	3.39	3.54	4.53	3.86	4.73	4.44	4.38	---	5.33	3.45	3.90	3.52
5	3.41	3.57	4.33	3.93	4.40	4.64	4.36	---	5.13	3.58	3.77	3.58
6	3.37	3.53	4.16	3.93	4.26	5.19	4.43	---	5.96	3.93	4.01	3.40
7	3.33	---	4.04	4.00	4.13	4.92	4.47	---	5.69	3.78	4.44	3.32
8	3.31	---	3.96	3.83	4.06	4.57	4.37	---	4.85	3.65	4.12	3.82
9	3.30	---	4.08	3.81	3.91	4.34	4.35	---	4.41	3.57	3.85	3.93
10	3.29	---	4.60	3.75	4.00	4.20	4.35	---	4.34	3.59	3.69	3.61
11	3.29	---	4.63	3.63	4.62	4.10	4.36	---	4.65	3.60	3.59	3.48
12	3.28	---	4.45	3.70	5.01	4.02	4.30	---	4.38	3.49	3.65	3.40
13	3.27	---	4.26	3.71	4.74	3.97	4.21	---	4.18	3.47	3.55	3.35
14	3.14	---	4.09	3.74	4.44	3.92	4.18	---	4.08	3.54	3.47	3.32
15	3.24	---	3.99	3.71	4.25	3.89	4.45	---	3.91	3.45	3.44	3.75
16	3.20	---	3.94	3.67	4.15	4.17	4.48	---	3.79	3.44	3.49	4.49
17	3.20	---	3.86	3.62	4.14	4.41	4.99	---	3.77	3.44	3.46	4.05
18	3.22	---	3.79	3.61	4.25	4.46	5.60	---	3.67	3.37	3.38	3.78
19	3.25	---	3.77	3.61	4.30	4.34	4.99	---	3.61	3.33	3.33	3.70
20	3.29	---	3.64	3.62	4.94	4.22	4.67	---	4.44	3.45	3.30	3.60
21	3.28	---	3.52	3.67	8.21	4.12	4.42	---	4.52	3.46	3.27	3.52
22	3.25	---	3.61	3.76	5.75	4.04	---	---	4.46	3.55	3.25	3.46
23	3.23	---	3.68	3.84	5.40	4.08	---	---	4.59	3.49	3.22	3.42
24	3.23	---	3.74	3.88	5.52	4.44	---	---	4.24	3.41	3.20	3.39
25	3.69	---	3.75	3.88	5.01	4.78	---	---	4.00	3.62	3.18	3.35
26	3.91	---	3.72	4.30	4.64	4.88	---	---	4.01	3.51	3.17	3.33
27	3.67	---	3.89	5.10	4.42	5.45	---	---	3.81	3.53	3.15	3.31
28	3.66	---	3.83	4.90	4.36	5.55	---	4.91	3.70	3.61	3.14	3.29
29	3.95	---	3.87	4.57	---	4.88	---	5.32	3.61	4.15	3.13	3.27
30	3.87	---	3.95	4.28	---	4.55	---	4.90	3.56	3.94	3.11	3.26
31	3.76	---	3.99	4.09	---	4.29	---	4.57	---	3.71	3.10	---
MEAN	3.40	---	---	3.94	4.72	4.50	---	---	4.33	3.57	3.49	3.52
MAX	3.95	---	---	5.10	8.21	5.55	---	---	5.96	4.15	4.44	4.49
MIN	3.14	---	---	3.61	3.91	3.89	---	---	3.56	3.33	3.10	3.16

KANAWHA RIVER BASIN

285

03195250 LEFT FORK HOLLY RIVER NEAR REPLETE, WV

LOCATION.--Lat 38°41'19", long 80°26'01", Webster County, Hydrologic Unit 05050007, on left bank at Poling, 100 ft (30 m) downstream from Potts Run, 1.8 mi (2.9 km) southeast of Replete, and at mile 8.4 (13.5 km).

DRAINAGE AREA.--48.1 mi² (124.6 km²).

PERIOD OF RECORD.--March 1974 to September 1978. October 1978 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only).

GAGE.--Water-stage recorder. Altitude of gage is 1,190 ft (363 m), from topographic map.

REMARKS.--Records for winter periods not adjusted for ice effect. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft³/s (91.8 m³/s) July 16, 1979, gage height, 11.71 ft (3.569 m); minimum, 2.1 ft³/s (0.059 m³/s) Aug. 27, 28, 1976, gage height, 4.30 ft (1.311 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,020 ft³/s (57.2 m³/s) Feb. 21, gage height, 10.28 ft (3.133 m); minimum gage height, 4.39 ft (1.338 m) Aug. 29, 30, 31.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.68	5.19	5.84	5.77	5.83	7.01	6.16	6.52	6.71	5.24	5.23	4.58
2	4.67	5.11	6.16	5.75	6.99	6.90	6.49	6.86	6.56	5.23	5.07	5.08
3	4.73	5.05	6.63	5.69	6.97	6.54	6.38	6.58	6.37	5.07	5.10	5.27
4	4.79	4.99	6.43	5.49	6.49	6.28	6.16	6.26	7.51	4.96	5.16	5.32
5	4.79	5.03	6.15	5.83	6.13	6.51	6.18	6.01	7.84	5.43	4.98	5.60
6	4.73	4.97	5.95	6.37	5.98	6.96	6.23	5.96	8.61	5.74	5.28	5.24
7	4.68	4.92	5.83	6.19	5.84	6.70	6.21	6.02	7.68	5.43	5.51	5.04
8	4.66	4.90	5.79	6.06	5.79	6.37	6.11	5.95	6.77	5.25	5.39	5.89
9	4.64	4.92	6.05	6.04	5.60	6.12	6.11	5.85	6.26	5.14	5.24	6.29
10	4.62	5.25	6.84	5.81	5.74	5.94	6.11	5.74	6.29	5.08	5.10	5.72
11	4.62	5.16	6.65	5.74	6.51	5.80	6.09	6.21	6.41	5.23	4.99	5.40
12	4.63	5.12	6.34	5.98	6.92	5.70	5.99	7.19	6.20	5.03	5.07	5.20
13	4.63	5.08	6.08	5.77	6.57	5.64	5.85	6.99	5.95	4.95	4.99	5.06
14	4.60	5.05	5.85	5.38	6.29	5.60	5.89	6.53	5.75	5.02	4.86	4.96
15	4.57	5.02	5.71	5.28	6.08	5.55	6.28	6.85	5.53	4.90	4.79	5.91
16	4.55	5.01	5.63	5.22	5.97	5.88	6.23	6.77	5.36	4.86	5.06	6.91
17	4.54	5.17	5.53	5.17	6.09	6.12	6.54	6.50	5.33	4.86	4.97	6.36
18	4.57	6.89	5.43	5.15	6.44	6.16	7.19	6.40	5.20	4.75	4.81	5.91
19	4.62	6.33	5.40	5.14	6.46	6.05	6.88	7.57	5.09	4.69	4.73	5.72
20	4.68	5.94	5.24	5.15	6.99	5.91	6.55	7.86	5.60	4.69	4.68	5.52
21	4.67	5.71	5.33	5.21	9.14	5.81	6.23	7.06	5.59	4.82	4.63	5.34
22	4.64	5.53	5.52	5.39	7.54	5.71	6.06	6.47	5.84	5.13	4.59	5.21
23	4.61	5.42	5.43	5.48	7.28	5.75	6.00	6.08	6.04	5.00	4.54	5.14
24	4.59	7.47	5.44	5.52	7.31	6.08	6.14	5.80	5.75	4.87	4.51	5.04
25	5.11	7.73	5.50	5.53	6.85	6.29	6.22	5.59	5.59	5.08	4.48	4.96
26	5.57	6.94	5.57	6.00	6.49	6.43	6.24	5.44	6.19	4.89	4.46	4.90
27	5.22	6.46	5.92	6.78	6.23	7.32	6.14	5.40	5.86	4.82	4.43	4.84
28	5.15	6.17	5.74	6.53	6.17	7.41	5.97	5.69	5.59	5.10	4.41	4.79
29	5.50	5.99	5.73	6.24	---	6.78	5.95	6.60	5.38	6.24	4.40	4.75
30	5.43	5.83	5.78	5.95	---	6.43	6.08	6.58	5.26	5.83	4.40	4.71
31	5.30	---	5.71	5.72	---	6.12	---	7.06	---	5.47	4.40	---
MEAN	4.80	5.61	5.85	5.72	6.52	6.25	6.22	6.40	6.14	5.12	4.85	5.36
MAX	5.57	7.73	6.84	6.78	9.14	7.41	7.19	7.86	8.61	6.24	5.51	6.91
MIN	4.54	4.90	5.24	5.14	5.60	5.55	5.85	5.40	5.09	4.69	4.40	4.58

WTR YR 1981 MEAN 5.73 MAX 9.14 MIN 4.40

KANAWHA RIVER BASIN

03195400 SUTTON LAKE AT SUTTON, WV

LOCATION.--Lat 38°39'40", long 80°41'40", Braxton County, Hydrologic Unit 05050007, at Sutton Dam on Elk River, 1.0 mi (1.6 km) upstream from Sutton, and at mile 101.1 (162.7 km).

DRAINAGE AREA.--537 mi² (1,391 km²).

PERIOD OF RECORD.--October 1960 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in 1961; closure of dam was made in April 1959 and storage above minimum-pool elevation began Feb. 26, 1961. Spillway equipped with 6 taintor gates 40 ft (12.2 m) long by 31 ft (9.4 m) high and 5 sluice gates 5.67 ft (1.728 m) wide by 10 ft (3.0 m) high. Total level-pool capacity at elevation 1,000 ft (304.8 m), flood-control pool elevation, is 265,300 acre-ft (327 hm³) of which 261,200 acre-ft (322 hm³) is controlled storage above elevation 850 ft (259.1 m), minimum-pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 111,400 acre-ft (137 hm³) June 3, 1974, elevation, 950.19 ft (289.618 m); minimum since initial filling, 734 acre-ft (0.905 hm³) Apr. 1, 1961, elevation, 832.33 ft (253.694 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 70,300 acre-ft (86.7 hm³) June 7, elevation, 928.92 ft (283.135 m); minimum, 29,220 acre-ft (36.0 hm³) Dec. 20, Mar. 5, elevation 895.10 ft (272.826 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	Change in Contents (equivalent in cfs)
Sept. 30.....	922.56	60510	-	-
Oct. 31.....	914.30	49350	-11160	-182
Nov. 30.....	899.37	33110	-16240	-273
Dec. 31.....	895.95	29970	-3140	-51
CAL YR 1980			+25120	+35
Jan. 31.....	903.93	37590	+7620	+124
Feb. 28.....	903.58	37230	-360	-6
Mar. 31.....	914.49	49590	+12360	+201
Apr. 30.....	922.42	60310	+10720	+180
May 31.....	922.79	60850	+540	+9
June 30.....	922.36	60220	-630	-11
July 31.....	922.75	60790	+570	+9
Aug. 31.....	916.05	51570	-9220	-150
Sept. 30.....	920.42	57450	+5880	+99
WTR YR 1981			-3060	-4

KANAWHA RIVER BASIN

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03195500 ELK RIVER AT SUTTON, WV

LOCATION.--Lat 38°39'45", long 80°42'35", Braxton County, Hydrologic Unit 05050007, on left bank 150 ft (46 m) upstream from highway bridge at Sutton, 0.5 mi (0.8 km) upstream from Granny Creek, 0.9 mi (1.4 km) downstream from Sutton Dam, 2.5 mi (4.0 km) downstream from Wolf Creek, and at mile 100.1 (161.1 km).

DRAINAGE AREA.--543 mi² (1,406 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only October 1938 to February 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1942(M), 1948-50(M).

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft (243.840 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1940, nonrecording gage and Apr. 5, 1940, to Sept. 30, 1960, water-stage recorder at site 150 ft (46 m) downstream at datum 8.03 ft (2.448 m) higher.

REMARKS.--Water-discharge records good. Flow regulated since 1960 by Sutton Lake (station 03195400).

AVERAGE DISCHARGE.--43 years, 1,140 ft³/s (32.28 m³/s), 28.51 in/yr (724 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,200 ft³/s (969 m³/s) Jan. 29, 1957, gage height, 39.30 ft (11.979 m), present datum; minimum, 0.4 ft³/s (0.011 m³/s) Oct. 25, 26, 28, 29, 1953; minimum gage height, 9.87 ft (3.008 m) Oct. 25, 1953, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918, reached a stage of 45.2 ft (13.78 m), present datum, from floodmarks, discharge, about 49,000 ft³/s (1,390 m³/s), from rating curve extended above 28,000 ft³/s (790 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,910 ft³/s (196 m³/s) June 4, gage height, 19.39 ft (5.910 m); minimum daily, 78 ft³/s (2.21 m³/s) Sept. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239	1080	1580	657	426	3850	1520	1440	2690	322	595	410
2	239	1070	1340	657	1430	4240	235	2240	2520	395	264	408
3	239	805	1840	657	2500	3100	225	1880	2130	459	125	411
4	239	463	2070	657	2350	2230	780	1400	4520	459	340	241
5	235	489	1550	493	2030	1990	1280	1130	6500	464	580	85
6	339	488	1220	322	1850	2500	1390	967	5510	691	660	85
7	554	486	1070	518	1740	2490	1460	933	5890	1190	1190	85
8	478	483	842	570	1520	1580	1440	933	5740	1130	1220	88
9	215	484	946	390	1390	1280	1460	933	4040	811	696	82
10	198	483	1570	318	1280	1040	1460	715	2260	493	518	78
11	198	483	1860	314	1170	811	1460	887	3030	364	422	78
12	257	483	1630	314	1680	726	1340	3220	1960	310	335	80
13	364	480	1250	314	1500	720	1080	3050	1280	318	335	80
14	368	478	887	314	1620	720	940	2270	1060	368	255	82
15	368	477	732	314	1610	720	940	2740	842	368	219	140
16	364	475	668	314	1600	726	1220	3010	570	310	183	799
17	365	496	564	314	1590	920	2140	2120	528	298	120	1290
18	364	956	559	314	1800	1200	4950	1840	445	235	120	732
19	364	1490	533	314	2360	1200	3230	4290	322	100	192	465
20	364	1470	339	314	2710	967	2350	6520	580	86	320	464
21	361	1460	144	318	3460	836	1910	4760	1280	89	367	393
22	357	1450	144	326	4920	768	1390	2540	1180	176	426	335
23	355	1430	283	322	5660	618	1220	1620	1380	205	426	335
24	364	1590	390	322	5980	523	1280	1020	1120	215	426	335
25	377	2610	364	426	5910	528	1320	744	768	283	426	253
26	369	3850	368	488	4730	538	1220	596	744	417	424	194
27	368	3790	436	668	4020	559	1150	513	836	294	419	198
28	403	2850	523	1110	3540	1580	987	1150	483	310	417	199
29	590	1940	523	750	---	2460	933	5560	322	746	415	198
30	922	1810	528	426	---	2980	940	4610	322	1090	413	197
31	1150	---	607	422	---	2620	---	3620	---	945	411	---
TOTAL	11967	36399	27360	13957	72376	47020	43250	69251	60852	13941	13259	8820
MEAN	386	1213	883	450	2585	1517	1442	2234	2028	450	428	294
MAX	1150	3850	2070	1110	5980	4240	4950	6520	6500	1190	1220	1290
MIN	198	463	144	314	426	523	225	513	322	86	120	78

CAL YR 1980 TOTAL 386639 MEAN 1056 MAX 6510 MIN 82 MEAN# 1091 CFSM# 2.01 IN# 27.36
WTR YR 1981 TOTAL 418452 MEAN 1146 MAX 6520 MIN 78 MEAN# 1142 CFSM# 2.10 IN# 28.56

* Adjusted for change in contents in Sutton Lake.

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1960 to current year.

TURBIDITY: January 1974 to March 1975.

INSTRUMENTATION.--Temperature recorder since Mar. 3, 1960.

REMARKS.--Interruptions in water-temperature record due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C Aug. 30, Sept. 1, 1960; minimum, 0.0°C many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 27.5°C July 19, 20; minimum recorded, 1.0°C Feb. 18-20.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1					---	---	3.5	3.5	1.5	1.5	6.0	6.0
2					---	---	4.0	3.5	3.0	1.5	6.0	6.0
3					5.5	5.5	3.5	3.5	3.0	3.0	6.0	5.5
4					5.5	5.5	3.5	3.5	3.0	3.0	5.5	5.5
5					5.5	5.5	3.5	3.0	3.0	3.0	5.5	5.5
6					5.5	5.0	3.0	2.5	3.0	2.5	5.5	5.5
7					5.0	5.0	2.5	2.0	2.5	2.0	5.5	5.5
8					5.0	5.0	3.0	2.5	2.0	2.0	5.5	5.5
9					5.0	4.5	2.5	2.0	2.0	2.0	5.5	5.0
10					4.5	4.5	2.0	2.0	2.0	2.0	5.0	5.0
11					4.5	4.5	2.0	2.0	2.0	2.0	5.0	4.5
12					4.5	4.5	2.5	2.0	2.0	2.0	5.5	4.5
13					5.0	4.5	2.5	2.0	2.0	2.0	6.0	5.0
14					5.0	5.0	2.0	2.0	2.0	2.0	6.0	5.0
15					5.0	5.0	2.0	2.0	2.0	1.5	6.0	5.5
16					5.0	5.0	2.0	1.5	1.5	1.5	5.5	5.5
17					5.0	5.0	1.5	1.5	1.5	1.5	5.5	5.5
18					5.0	5.0	2.0	1.5	1.5	1.0	5.5	5.5
19					5.0	5.0	2.0	1.5	1.0	1.0	5.5	5.0
20					5.0	4.5	1.5	1.5	2.0	1.0	5.0	5.0
21					4.5	4.0	1.5	1.5	3.0	2.0	5.0	5.0
22					4.5	4.0	1.5	1.5	3.5	3.0	5.0	5.0
23					4.5	4.5	1.5	1.5	4.5	3.5	5.5	5.0
24					4.5	4.5	1.5	1.5	4.5	4.0	6.0	5.0
25					4.5	4.0	2.0	1.5	5.0	4.0	6.0	5.0
26					4.0	4.0	2.0	1.5	5.5	5.0	6.5	5.5
27					4.0	4.0	2.0	1.5	6.0	5.0	6.5	5.5
28					4.0	4.0	2.5	2.0	6.0	6.0	6.0	5.5
29					4.0	4.0	2.5	1.5	---	---	6.0	5.5
30					4.0	3.5	2.0	1.5	---	---	6.5	6.0
31					3.5	3.5	2.0	1.5	---	---	6.5	6.0
MONTH					5.5	3.5	4.0	1.5	6.0	1.0	6.5	4.5

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

KANAWHA RIVER BASIN

03196500 BIRCH RIVER AT HEROLD, WV

LOCATION.--Lat 38°34'29", long 80°48'04", Braxton County, Hydrologic Unit 05050007, on left bank at downstream side of County Route 40 highway bridge, 100 ft (30 m) downstream from Long Run, 0.8 mi (1.3 km) northeast of Herold and at mile 11.3 (18.2 km).

DRAINAGE AREA.--124 mi² (321 km²).

PERIOD OF RECORD.--October 1929 to December 1931 (gage heights only), water years 1930-31, 1939, 1941, 1960-61, 1964, and 1967 (occasional low-flow measurements only), January 1974 to September 1975 and October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 934.46 ft (284.823 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s (283 m³/s) revised, July 10, 1980, gage height, 13.55 ft (4.130 m); minimum, 4.0 ft³/s (0.11 m³/s) Aug. 2, 1975, gage height, 1.62 ft (0.494 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,360 ft³/s (237 m³/s) May 29, gage height, 12.45 ft (3.795 m); minimum daily, 4.3 ft³/s (0.12 m³/s) Oct. 24.

REVISIONS.--Revised figures of discharge for water year 1980, superseding those published in the report for 1980 are given herein.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	55	204	180	140	100	644	1530	78	19	18	21
2	266	696	172	156	117	82	544	732	65	14	33	22
3	389	870	137	138	129	74	386	445	65	54	23	27
4	347	452	129	127	120	125	332	310	127	137	18	22
5	345	295	121	125	105	1330	270	238	73	84	22	46
6	327	229	119	110	94	1900	234	196	141	72	30	31
7	288	186	119	112	82	790	211	167	310	47	19	21
8	234	154	101	138	74	636	512	135	213	48	17	17
9	974	140	87	128	66	455	3500	114	136	205	16	14
10	3940	205	86	122	60	325	898	100	293	5340	16	14
11	1510	240	85	138	54	278	477	90	251	898	16	14
12	750	342	91	243	50	230	337	82	166	448	17	12
13	775	461	765	276	48	300	278	80	115	648	15	11
14	612	377	900	293	44	340	504	110	85	350	12	10
15	413	286	536	283	66	310	551	80	68	198	12	10
16	281	270	362	274	278	330	436	68	97	127	26	13
17	210	237	262	266	446	430	337	61	82	90	28	11
18	158	219	198	386	443	700	272	63	59	76	143	9.7
19	127	194	181	680	365	860	225	61	50	56	383	9.7
20	109	166	149	508	246	720	188	169	42	46	260	8.9
21	93	146	126	359	407	580	161	1140	34	38	480	8.9
22	82	132	115	290	974	640	137	487	30	34	340	9.3
23	76	121	109	312	700	560	124	288	26	58	190	36
24	76	238	115	290	443	460	111	386	26	47	120	42
25	68	345	1120	464	325	780	99	882	24	34	80	33
26	63	1540	895	556	268	700	101	467	23	28	60	37
27	58	860	540	440	214	461	682	281	19	29	45	27
28	63	491	365	342	198	356	920	191	17	24	35	20
29	75	332	281	270	161	320	533	137	15	33	28	16
30	62	246	240	210	---	270	1560	104	20	27	24	12
31	58	---	208	170	---	359	---	111	---	21	22	---
TOTAL	13034	10525	8918	8386	6717	15801	15564	9305	2750	9330	2548	585.5
MEAN	420	351	288	271	232	510	519	300	91.7	301	82.2	19.5
MAX	3940	1540	1120	680	974	1900	3500	1530	310	5340	480	46
MIN	58	55	85	110	44	74	99	61	15	14	12	8.9
CFSM	3.39	2.83	2.32	2.19	1.87	4.11	4.19	2.42	.74	2.43	.66	.16
IN.	3.91	3.16	2.68	2.52	2.02	4.74	4.67	2.79	.82	2.80	.76	.18
CAL YR 1979	TOTAL	124363.0	MEAN	341	MAX	3940	MIN	33	CFSM	2.75	IN	37.31
WTR YR 1980	TOTAL	103463.5	MEAN	283	MAX	5340	MIN	8.9	CFSM	2.28	IN	31.04

KANAWHA RIVER BASIN

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03196500 BIRCH RIVER AT HEROLD, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	43	135	143	130	687	230	317	500	63	130	11
2	10	36	150	157	805	619	278	388	669	52	94	13
3	12	30	248	120	965	427	264	340	548	43	98	20
4	19	27	234	90	460	322	231	262	1220	37	210	80
5	17	29	193	64	320	386	243	207	756	251	180	100
6	12	26	152	80	260	571	248	205	1660	648	190	50
7	11	24	123	100	220	483	236	258	1080	424	400	25
8	9.8	22	105	80	180	353	219	238	529	220	300	174
9	9.0	22	139	66	160	272	214	205	345	137	200	161
10	8.6	24	253	58	150	223	208	170	1070	103	140	63
11	9.0	25	258	54	366	189	205	219	639	91	110	39
12	8.4	22	228	64	750	160	198	383	355	66	94	28
13	7.4	20	186	80	514	143	181	394	312	71	92	22
14	6.6	19	143	88	397	124	170	314	418	151	70	18
15	6.0	19	120	67	244	107	198	820	295	117	58	76
16	5.6	19	109	58	204	167	191	656	193	96	58	264
17	5.2	35	92	52	196	208	578	415	152	80	70	143
18	5.2	358	77	46	207	238	920	454	108	60	50	81
19	5.6	223	73	41	210	228	529	1890	82	49	45	70
20	5.6	138	47	54	442	210	406	1700	661	41	37	59
21	5.4	100	39	82	2550	188	312	770	536	38	32	47
22	5.0	76	32	178	936	182	266	424	487	37	27	37
23	4.4	63	45	207	1550	199	244	266	380	31	24	31
24	4.3	756	63	193	1260	268	264	184	241	26	21	26
25	41	756	91	179	700	347	233	132	161	29	19	23
26	97	400	62	285	461	355	204	104	162	26	17	20
27	50	281	70	548	334	424	184	92	105	21	16	18
28	39	220	76	400	305	483	160	959	78	100	15	16
29	70	181	81	230	---	374	161	4000	62	350	13	14
30	65	147	103	170	---	305	188	936	56	310	12	13
31	53	---	112	140	---	233	---	586	---	190	12	---
TOTAL	618.1	4141	3839	4174	15276	9475	8163	18288	13860	3958	2834	1742
MEAN	19.9	138	124	135	546	306	272	590	462	128	91.4	58.1
MAX	97	756	258	548	2550	687	920	4000	1660	648	400	264
MIN	4.3	19	32	41	130	107	160	92	56	21	12	11
CFSM	.16	1.11	1.00	1.09	4.40	2.47	2.19	4.76	3.73	1.03	.74	.47
IN.	.19	1.24	1.15	1.25	4.58	2.84	2.45	5.49	4.16	1.19	.85	.52
CAL YR 1980	TOTAL	79584.6	MEAN	217	MAX	5340	MIN	4.3	CFSM	1.75	IN	23.88
WTR YR 1981	TOTAL	86368.1	MEAN	237	MAX	4000	MIN	4.3	CFSM	1.91	IN	25.91

KANAWHA RIVER BASIN

03196600 ELK RIVER NEAR FRAMETOWN, WV

LOCATION.--Lat 38°35'34", long 80°53'06", Braxton County, Hydrologic Unit 05050007, on right bank opposite mouth of Birch River, at village of Glendon, 2.2 mi (3.5 km) upstream from Strange Creek, 3.2 mi (5.1 km) southwest of Frametown, and at mile 80.7 (129.8 km). Records include flow of Birch River.

DRAINAGE AREA.--752 mi² (1,948 km²), includes that of Birch River.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 775.51 ft (236.375 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--23 years, 1,572 ft³/s (44.52 m³/s), 28.39 in/yr (721 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s (612 m³/s) Mar. 15, 1967, gage height, 16.05 ft (4.892 m); minimum, 9.0 ft³/s (0.25 m³/s) Sept. 28, 29, 1959, gage height, 1.44 ft (0.439 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,600 ft³/s (357 m³/s) May 29, gage height, 11.31 ft (3.447 m); minimum daily, 114 ft³/s (3.23 m³/s) Sept. 7, 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	1130	1890	887	604	4920	2140	1660	3700	544	887	488
2	268	1120	1570	918	2270	5330	882	2640	4230	451	483	483
3	284	1030	2050	873	3590	4240	590	2510	3040	555	222	499
4	305	527	2540	812	3040	2710	727	1840	5950	548	248	521
5	289	505	1950	707	2480	2810	1600	1430	8230	1100	659	208
6	276	510	1420	466	2160	3070	1680	1270	8800	1520	910	135
7	510	505	1330	566	2020	3530	1750	1340	7900	1710	1260	114
8	596	505	1010	767	1810	2220	1700	1240	6670	1520	1650	144
9	314	510	1140	549	1570	1660	1710	1180	5540	1180	1020	314
10	225	510	1830	424	1560	1380	1710	1030	3020	835	737	195
11	222	505	2230	380	1610	1120	1690	888	4280	564	590	147
12	222	499	2060	385	2360	922	1640	3120	2730	455	461	123
13	343	499	1560	390	1930	895	1360	3740	1820	455	435	114
14	375	494	1170	399	2030	872	1150	2880	1740	610	404	114
15	375	494	880	394	1930	847	1190	3550	1360	610	297	706
16	375	494	857	384	1880	963	1310	4110	876	500	293	1130
17	375	685	672	373	1890	1140	2710	2880	731	474	208	1660
18	380	1570	646	363	1990	1420	6270	2510	660	426	169	1210
19	380	1840	633	367	2590	1550	4600	6740	450	272	156	630
20	375	1660	549	371	3330	1300	2940	9400	927	175	328	610
21	371	1590	241	444	6270	1080	2550	6810	1830	159	390	571
22	371	1550	205	680	5900	1070	1800	3590	1660	179	494	431
23	366	1510	222	691	8440	962	1520	2150	1840	293	505	418
24	366	2760	472	628	7880	844	1600	1340	1550	276	499	412
25	527	3360	461	620	7370	903	1660	1000	1100	357	499	390
26	578	4530	424	836	5700	919	1470	772	921	477	494	260
27	461	4330	472	1120	4660	1060	1420	627	1120	488	494	244
28	435	3650	596	1570	4210	1700	1220	980	723	357	488	248
29	554	2310	608	1310	---	2990	1150	9800	433	865	488	244
30	887	2060	659	682	---	3230	1260	6620	451	1230	488	248
31	1220	---	745	577	---	3270	---	5010	---	1210	488	---
TOTAL	12889	43242	33092	19933	93074	60927	54999	94657	84282	20395	16744	13011
MEAN	416	1441	1067	643	3324	1965	1833	3053	2809	658	540	434
MAX	1220	4530	2540	1570	8440	5330	6270	9800	8800	1710	1650	1660
MIN	222	494	205	363	604	844	590	627	433	159	156	114

CAL YR 1980 TOTAL 515756 MEAN 1409 MAX 8060 MIN 100 MEAN# 1444 CFSM# 1.92 IN# 26.15
WTR YR 1981 TOTAL 547245 MEAN 1499 MAX 9800 MIN 114 MEAN# 1495 CFSM# 1.99 IN# 27.07

* Adjusted for change in contents in Sutton Lake.

KANAWHA RIVER BASIN

293

03196800 ELK RIVER AT CLAY, WV

LOCATION.--Lat 38°27'36", long 81°05'15", Clay County, Hydrologic Unit 05050007, on right bank at downstream side of pier of highway bridge at Clay, 0.9 mi (1.4 km) downstream from Buffalo Creek, 2.1 mi (3.4 km) downstream from Lower Two Run Creek, and at mile 52.5 (84.5 km).

DRAINAGE AREA.--994 mi² (2,574 km²).

PERIOD OF RECORD.--October 1958 to September 1978. October 1978 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only). Gage-height records collected at same site since 1915 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 677.46 ft (206.490 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1959-78), 1,926 ft³/s (54.54 m³/s), 26.31 in/yr (668 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s (1,360 m³/s) Mar. 15, 1967, gage height, 22.80 ft (6.949 m); minimum, 1.5 ft³/s (0.042 m³/s) Sept. 22, 1959, gage height, -0.13 ft (-0.040 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 14, 1918, reached a stage of 32.4 ft (9.88 m), from reports of National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,200 ft³/s (459 m³/s) May 29, gage height, 12.88 ft (3.926 m); minimum gage height, 0.84 ft (0.256 m) Aug. 19.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.21	2.98	4.42	3.45	2.49	7.55	4.94	3.90	6.56	2.28	2.57	1.53
2	1.19	2.90	4.04	3.51	5.01	7.86	3.91	4.95	7.45	1.85	1.95	1.57
3	1.24	2.87	4.40	3.38	6.58	7.18	2.77	5.26	6.25	1.77	1.38	1.70
4	1.49	2.25	5.23	3.09	5.81	5.52	2.57	4.41	8.26	1.85	.94	1.84
5	1.42	1.74	4.74	2.97	5.09	5.61	3.76	3.81	9.86	1.32	1.32	1.46
6	1.35	1.77	4.03	2.83	4.64	5.72	4.27	3.57	10.32	4.56	2.37	.91
7	1.42	1.75	3.71	2.56	4.43	6.48	4.24	3.94	9.86	4.15	2.69	.85
8	1.91	1.74	3.25	2.78	4.29	5.24	4.08	3.70	8.62	3.75	3.59	1.17
9	1.81	1.74	3.41	2.77	3.91	4.32	4.08	3.53	7.98	3.30	2.99	1.46
10	1.23	1.79	4.35	2.29	3.89	3.92	4.25	3.36	7.66	2.80	2.26	1.24
11	1.11	1.75	4.96	1.99	4.24	3.50	4.16	3.10	7.33	2.43	1.92	1.86
12	1.10	1.74	4.91	2.03	4.76	3.05	4.08	4.53	5.84	1.86	1.70	2.95
13	1.08	1.72	4.35	2.26	4.82	2.93	3.82	6.29	6.19	1.63	1.46	2.87
14	1.38	1.71	3.71	2.31	4.78	2.86	3.48	5.55	6.32	1.88	1.44	2.80
15	1.40	1.71	3.03	2.22	4.59	2.79	3.49	6.20	4.53	2.00	1.31	4.67
16	1.41	1.72	2.97	2.08	4.47	3.06	3.42	6.93	3.46	1.92	1.14	7.75
17	1.41	1.80	2.66	1.95	4.55	3.42	5.29	5.86	2.92	1.78	1.10	5.93
18	1.42	4.39	2.38	1.80	4.56	3.75	8.45	5.20	2.62	1.68	.91	3.72
19	1.43	4.32	2.34	1.94	4.98	4.05	7.64	9.21	2.28	1.57	.85	3.30
20	1.41	4.06	2.12	2.11	5.90	3.80	5.78	11.26	2.24	1.25	.85	3.13
21	1.39	3.79	1.71	2.44	7.90	3.47	5.34	9.43	3.94	1.13	1.28	3.07
22	1.38	3.61	1.27	3.35	7.99	3.50	4.41	6.84	4.09	1.13	1.39	3.00
23	1.38	3.52	1.38	3.62	10.19	3.44	3.96	5.08	4.23	1.15	1.57	2.92
24	1.37	4.74	1.74	3.38	10.30	3.24	3.97	3.99	3.94	1.31	1.56	2.87
25	1.83	6.11	2.12	3.16	9.52	3.24	4.00	3.29	3.27	1.30	1.56	2.81
26	2.43	6.62	2.12	3.35	8.21	3.25	3.76	2.82	3.07	1.43	1.55	2.75
27	1.86	6.62	2.06	3.67	7.20	3.36	3.66	2.49	2.87	1.70	1.54	2.67
28	1.71	6.49	2.21	3.96	6.71	3.78	3.43	2.56	2.63	1.60	1.53	2.58
29	1.92	4.99	2.39	4.04	---	5.49	3.25	11.03	2.11	1.98	1.53	2.50
30	2.23	4.53	2.76	3.06	---	5.63	3.44	9.40	1.79	2.68	1.52	2.43
31	2.84	---	3.10	2.43	---	6.03	---	7.78	---	2.93	1.53	---
MEAN	1.54	3.25	3.16	2.80	5.78	4.42	4.26	5.46	5.28	2.11	1.65	2.68
MAX	2.84	6.62	5.23	4.04	10.30	7.86	8.45	11.26	10.32	4.56	3.59	7.75
MIN	1.08	1.71	1.27	1.80	2.49	2.79	2.57	2.49	1.79	1.13	.85	.85

WTR YR 1981 MEAN 3.51 MAX 11.26 MIN .85

KANAWHA RIVER BASIN

03197000 ELK RIVER AT QUEEN SHOALS, WV

LOCATION.--Lat 38°28'20", long 81°17'10", Kanawha County, Hydrologic Unit 05050007, on right bank 50 ft (15 m) upstream from Queen Shoals Creek, 100 ft (30 m) downstream from highway bridge at Queen Shoals, 4.0 mi (6.4 km) upstream from Big Sandy Creek, and at mile 25.8 (41.5 km). Records include flow of Queen Shoals Creek.

DRAINAGE AREA.--1,145 mi² (2,966 km²), includes that of Queen Shoals Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October, November 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1335: 1929-32, 1935(M), 1936, 1939, 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 604.09 ft (184.127 m) National Geodetic Vertical Datum of 1929. Prior to June 19, 1932, nonrecording gage and June 19, 1932, to Sept. 30, 1946, water-stage recorder, at bridge 100 ft (30 m) upstream at same datum.

REMARKS.--Water-discharge records fair. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years, 2,043 ft³/s (57.86 m³/s), 24.23 in/yr (615 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s (2,040 m³/s) July 5, 1932, gage height, 29.2 ft (8.90 m), from rating curve extended above 40,000 ft³/s (1,100 m³/s); minimum, 0.3 ft³/s (0.008 m³/s) Nov. 4, 5, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,100 ft³/s (484 m³/s) May 29; maximum gage height, 11.69 ft (3.563 m) Feb. 24; minimum discharge, 115 ft³/s (3.26 m³/s) Sept. 14, gage height, 4.07 ft (1.241 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	1410	2590	1330	906	6260	3290	2540	6200	783	1210	530
2	289	1300	2270	1630	3100	6730	2580	3270	7810	746	903	530
3	303	1260	2350	1570	5440	6150	1370	3900	6120	602	528	540
4	365	1120	3030	1380	4520	4290	1160	3210	9040	663	320	727
5	420	637	2950	964	3660	3860	1600	2570	11200	842	187	585
6	355	555	2300	840	3040	4220	2440	2210	11800	3410	700	332
7	316	570	1870	760	2720	4880	2600	2560	12000	2590	1100	169
8	449	586	1670	740	2580	3930	2700	2390	9130	2300	1620	140
9	641	592	1500	1070	2250	2780	2800	2170	7780	1850	1680	411
10	449	601	2460	855	2100	2290	2900	1990	8910	1430	1050	453
11	276	610	2900	486	2420	1920	2800	1750	7510	1210	764	283
12	236	587	2920	460	2770	1590	2700	2290	5330	746	610	191
13	228	580	2500	513	3160	1370	2600	4870	5750	576	467	144
14	264	568	1990	630	3030	1290	2400	4330	6600	560	405	122
15	375	564	1520	612	2750	1200	2000	4920	3780	700	391	161
16	379	568	1260	575	2620	1280	2500	6010	2340	681	345	1320
17	379	599	1180	480	2660	1710	4260	4970	1570	576	277	1640
18	383	2180	941	440	2710	1880	8300	3840	1210	512	239	1910
19	390	2560	893	460	2970	2140	7600	8810	1010	453	165	1400
20	386	2420	836	529	3960	2100	5160	14800	852	365	160	746
21	376	2180	689	601	6110	1820	4260	11200	1770	229	420	672
22	370	2040	422	1000	7120	1730	3450	6690	2500	182	520	627
23	368	1950	326	1530	9470	1720	2860	4090	2500	169	560	568
24	362	2430	357	1480	11600	1610	2750	2770	2350	205	550	520
25	458	5090	595	1300	9360	1530	2730	1850	1820	271	540	425
26	998	4970	512	1310	7640	1540	2570	1420	1490	320	540	411
27	798	5270	698	1690	6120	1600	2370	1150	1210	418	530	352
28	602	5150	656	1990	5320	2010	2190	1080	1300	536	520	249
29	586	3690	825	2190	---	3110	1970	10900	872	475	520	219
30	684	2830	903	1660	---	3680	2100	10900	593	945	520	215
31	1090	---	1080	980	---	4110	---	7720	---	1330	520	---
TOTAL	13815	55467	46993	32055	122106	86330	91010	143170	142347	26675	18861	16592
MEAN	446	1849	1516	1034	4361	2785	3034	4618	4745	860	608	553
MAX	1090	5270	3030	2190	11600	6730	8300	14800	12000	3410	1680	1910
MIN	228	555	326	440	906	1200	1160	1080	593	169	160	122

CAL YR 1980 TOTAL 725442 MEAN 1982 MAX 12300 MIN 122 MEAN# 2017 CFSM# 1.76 IN# 23.99
WTR YR 1981 TOTAL 795421 MEAN 2179 MAX 14800 MIN 122 MEAN# 2175 CFSM# 1.90 IN# 25.80

* Adjusted for change in contents in Sutton Lake.

WATER-QUALITY RECORDS

WATER TEMPERATURES: November 1960 to April 1975.

WATER TEMPERATURES: Maximum daily, 29.0°C on several days in July 1963, 1964, 1968; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPE- RATURE (DEG. C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 15...	1320	377	100	7.4	17.0	30	--	.0	7.7	2.5	3.6	20
DEC 01...	1230	2530	70	7.0	7.0	21	14	.0	5.2	1.9	2.0	--
JAN 15...	1300	567	60	6.4	.5	25	16	<.1	6.2	2.4	2.6	--
FEB 17...	1145	2760	70	7.1	3.0	23	16	.0	5.7	2.0	2.0	--
APR 03...	1045	1440	70	7.0	11.0	24	16	.0	6.0	2.1	1.9	--
MAY 27...	1400	1080	70	6.9	14.0	24	--	.0	5.8	2.3	2.1	--
JUL 21...	1550	208	90	7.6	27.0	30	--	--	7.5	2.7	2.6	--
31...	1200	1340	100	7.1	25.0	--	--	--	--	--	--	--
SEP 10...	1145	538	87	7.4	23.0	--	--	--	--	--	--	--

[illegible][illegible]

KANAWHA RIVER BASIN

03197000 ELK RIVER AT QUEEN SHOALS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 15...	310	210	100	--	--	30	10	20	--	--	--	--
DEC 01...	750	690	60	<10	<4	50	40	14	<10	28	<6.0	<4
JAN 15...	220	170	50	--	--	40	0	40	--	--	--	--
FEB 17...	540	510	33	<10	<4	40	20	22	11	34	<6.0	<4
APR 03...	400	360	42	<10	<4	40	20	25	<10	36	<6.0	14
MAY 27...	330	300	30	--	--	40	0	40	--	--	--	--
JUL 21...	350	300	50	--	--	70	40	30	--	--	--	--

KANAWHA RIVER BASIN

297

03198000 KANAWHA RIVER AT CHARLESTON, WV

LOCATION.--Lat 38°22'10", long 81°42'05", Kanawha County, Hydrologic Unit 05050008, on left bank at old lock 6, 1.0 mi (1.6 km) upstream from Davis Creek, 1.5 mi (2.4 km) downstream from Twomile Creek, 2.0 mi (3.2 km) downstream from Patrick Street Bridge at Charleston, 3.5 mi (5.6 km) downstream from Elk River, and at mile 54.3 (87.4 km).

DRAINAGE AREA.--10,419 mi² (26,985 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1939 to current year. Monthly discharge only September 1939 to February 1940, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1943.

GAGE.--Water-stage recorder. Datum of gage is 548.00 ft (167.030 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Auxiliary water-stage recorder 2.3 mi (3.7 km) upstream from base gage at datum 547.00 ft (166.726 m) Corps of Engineers datum. Prior to Oct. 1, 1955, auxiliary gages at different sites and datum.

REMARKS.--Water-discharge records good above 10,000 ft³/s (283 m³/s) and poor below. Since 1939, flow regulated by increasing number of reservoirs upstream from station. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--42 years, 15,000 ft³/s (424.8 m³/s), 19.55 in/yr (497 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s (6,120 m³/s) Aug. 15, 1940; maximum gage height, 39.72 ft (12.107 m) Mar. 7, 1955; minimum discharge, less than 1,030 ft³/s (29.2 m³/s) during period Oct. 1-5, 1953; minimum gage height, 16.79 ft (5.118 m) Aug. 7, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1861, reached a stage of about 54.3 ft (16.55 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90,900 ft³/s (2,570 m³/s) May 30, gage height, 27.62 ft (8.419 m); minimum daily, 2,470 ft³/s (70.0 m³/s) Aug. 19; minimum gage height 17.43 ft (5.313 m) Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2680	6790	10300	7190	6270	24700	18900	13400	50300	4620	5140	2860
2	3410	6120	8060	7550	14600	27100	20900	14600	48000	6510	4370	2850
3	3740	5340	9420	6090	17700	22500	18500	13500	49400	6380	3320	3550
4	4650	3690	10300	6720	20500	19700	15800	11800	46800	5500	2840	4850
5	5800	3040	10100	4130	19600	20200	13700	9970	54000	5550	2820	6920
6	5590	4350	8970	3540	15700	27000	15300	10200	50300	9230	4050	10400
7	4820	4360	9290	5470	10900	26800	14500	9450	66600	14000	4760	7640
8	4700	4340	7610	4810	10400	25700	14700	9210	52700	14400	6410	6550
9	6070	4240	7300	4570	8550	17600	15400	9110	30200	12100	5070	6160
10	5890	3940	7280	4090	7740	15400	14300	7740	37900	8270	5010	4420
11	5630	3760	8830	3310	10700	15500	13700	7830	42600	7530	4330	3880
12	6230	4210	9740	3400	22100	14400	12900	22700	37300	5720	4840	3760
13	4140	3890	9180	3270	27400	12100	14300	29200	27000	4840	3460	4280
14	3640	3770	11500	3580	24500	11500	14700	22800	29000	4330	4360	3260
15	4450	4740	7810	3240	17400	8190	15900	23500	17700	4990	3520	3120
16	4260	4640	5720	3620	17000	5550	15600	26500	13800	5670	4230	4340
17	3880	4180	5090	3120	12700	11100	21300	20100	10400	6530	3800	4480
18	3820	6070	4980	2890	17200	11100	34200	18100	12200	4640	3140	4650
19	3760	6250	4800	2810	19500	12000	34900	30400	8260	5270	2470	5750
20	3570	7130	4930	2990	26100	11500	28600	71600	9710	3780	2740	6510
21	3620	6290	4420	3300	36100	11100	27300	67000	10000	4800	2630	5370
22	3380	7140	3560	4390	43300	10300	30500	48100	10200	4440	2840	4350
23	3970	6350	2530	5790	47500	7220	24400	32000	9100	4150	2930	4090
24	4680	9700	3320	7250	52700	8890	22100	24300	9510	4210	2970	4910
25	5720	15500	4420	6310	47100	12300	23100	14800	7690	3960	2730	4060
26	6550	18100	4300	6780	34600	16200	18000	15300	7290	3480	2500	4630
27	5430	17500	4360	6780	26500	18400	18300	12900	6940	3540	2640	5420
28	6500	18200	3410	10400	22600	21100	13600	11200	6280	4290	2850	4960
29	7030	12500	3470	10100	---	24300	13700	31900	5340	4350	3060	4760
30	5750	13800	3440	7800	---	21100	13200	82800	4510	7220	3060	4860
31	6030	---	5860	6270	---	17000	---	63500	---	4980	2800	---
TOTAL	149390	219930	204300	161560	636960	507550	572300	785510	771030	189280	111690	147640
MEAN	4819	7331	6590	5212	22750	16370	19080	25340	25700	6106	3603	4921
MAX	7030	18200	11500	10400	52700	27100	34900	82800	66600	14400	6410	10400
MIN	2680	3040	2530	2810	6270	5550	12900	7740	4510	3480	2470	2850
CAL YR 1980	TOTAL	5545730	MEAN	15150	MAX	70200	MIN	2250				
WTR YR 1981	TOTAL	4457140	MEAN	12210	MAX	82800	MIN	2470				

KANAWHA RIVER BASIN

03198000 KANAWHA RIVER AT CHARLESTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1953 to August 1970, October 1971 to current year.

INSTRUMENTATION.--Temperature recorder since Mar. 13, 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 35.0°C Aug. 25, 26, 1959; minimum, 0.5°C several days in 1969, 78, 79.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 31.0°C July 28; minimum, 0.5°C Jan. 13, 14, 17, 18.

TEMPERATURE, WATER (DEG. C), WATER YEAR CTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.5	21.5	13.0	12.5	8.0	7.5	4.5	4.0	3.5	3.0	7.5	7.5
2	22.0	21.5	13.0	12.5	8.5	7.5	4.5	4.0	3.5	3.5	7.5	7.0
3	21.5	20.5	12.5	12.5	8.5	7.5	4.5	3.5	3.5	3.5	7.5	7.0
4	21.0	20.0	13.5	12.5	8.5	7.0	3.5	2.5	3.5	2.5	7.5	7.0
5	20.0	20.0	13.5	12.5	8.5	8.0	2.5	2.0	2.5	1.5	7.0	7.0
6	20.0	19.0	13.5	12.5	8.5	7.5	2.5	1.5	1.5	1.5	7.0	7.0
7	19.0	18.5	13.5	12.5	8.5	7.5	2.5	1.5	2.0	1.5	7.0	7.0
8	19.0	18.0	13.5	12.5	8.5	8.0	3.0	2.5	2.5	2.0	7.0	7.0
9	18.5	18.0	14.5	13.5	8.5	8.5	2.5	2.5	2.5	2.0	7.0	6.5
10	19.5	18.5	14.0	13.5	9.0	8.5	2.5	2.5	2.5	2.5	7.0	6.5
11	19.5	19.0	13.5	12.5	8.5	8.5	2.5	1.0	3.0	2.5	7.0	7.0
12	19.5	18.5	13.0	12.5	8.5	8.5	2.0	1.0	3.5	3.0	7.0	7.0
13	18.5	18.5	12.5	12.0	8.5	8.5	1.0	.5	3.0	2.0	7.5	7.0
14	18.5	17.5	12.5	11.0	8.5	8.5	1.0	.5	3.0	2.0	8.0	7.5
15	18.5	17.5	12.0	11.0	8.5	8.0	1.5	1.0	3.0	2.5	8.0	7.5
16	18.5	17.5	11.0	11.0	8.0	7.0	1.5	1.0	3.5	3.0	8.0	8.0
17	18.0	17.5	11.0	10.5	8.0	7.0	1.5	.5	4.0	3.0	8.0	8.0
18	18.5	17.5	11.5	10.0	7.5	7.0	1.5	.5	4.5	3.5	8.0	8.0
19	18.5	18.0	10.0	9.5	8.0	7.0	1.5	1.0	5.5	4.5	8.0	8.0
20	18.5	17.5	9.5	9.5	7.5	6.5	2.0	1.5	6.0	5.5	8.0	7.0
21	18.5	17.5	9.5	9.0	7.0	5.0	2.5	1.5	6.0	5.5	7.5	7.0
22	18.5	17.5	9.5	9.0	6.0	5.0	2.5	1.5	6.0	6.0	7.5	7.0
23	17.5	17.5	9.5	9.0	6.5	5.0	2.5	1.5	6.5	6.0	7.5	7.0
24	17.5	17.0	10.0	9.0	7.0	5.5	3.0	2.5	6.5	6.5	8.0	7.5
25	17.0	16.5	9.5	8.5	6.5	5.0	3.5	2.5	6.5	6.0	8.0	8.0
26	16.5	15.5	8.5	8.5	5.5	4.5	3.0	2.5	7.0	6.5	8.0	8.0
27	15.5	14.5	8.5	8.5	5.0	4.5	3.5	2.5	7.5	7.0	8.5	8.0
28	15.0	14.5	8.5	8.5	5.0	4.0	4.0	3.5	7.5	7.5	9.0	8.5
29	14.5	13.5	8.5	8.0	4.5	4.0	4.0	3.5	---	---	9.0	8.5
30	13.5	13.5	8.0	7.5	4.0	3.5	3.5	3.5	---	---	9.5	9.0
31	13.5	13.0	---	---	5.0	3.5	3.5	3.0	---	---	10.5	9.5
MONTH	22.5	13.0	14.5	7.5	9.0	3.5	4.5	.5	7.5	1.5	10.5	6.5

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

KANAWHA RIVER BASIN

03198022 TRACE FORK D/S DRYDEN HOLLOW AT RUTH, WV

LOCATION.--Lat 38°18'55", long 81°43'42", Kanawha County, Hydrologic Unit 05050008, on right upstream wingwall of private bridge, 50 ft (15 m) west of State Highway 16/1, 100 ft (30 m) west of State Highway 214, and 0.4 mi (0.6 km) north of Ruth.

DRAINAGE AREA.--4.72 mi² (12.22 km²).

PERIOD OF RECORD.--November 1980 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)
NOV 25...	1745	10	130	6.6	7.0	--
DEC 31...	1415	4.3	205	6.8	4.0	--
JAN 02...	0945	2.5	175	7.6	8.5	--
MAY 26...	0925	1.5	--	6.8	16.0	--
JUL 20...	1030	.41	430	8.0	24.0	140
29...	1445	1.4	320	7.6	20.5	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SUMP- TION RATIO	ALKA- LINEITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
JUL 20...	41	9.6	24	.9	87	81	21	284

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUL 20...	.39	.31	300	250	50	90	10	90

03198500 BIG COAL RIVER AT ASHFORD, WV

LOCATION.--Lat 38°10'45", long 81°42'40", Boone County, Hydrologic Unit 05050009, on left bank at downstream side of highway bridge at Ashford, 300 ft (91 m) upstream from Lick Creek, 1.0 mi (1.6 km) downstream from Brush Creek, 1.8 mi (2.9 km) upstream from Bull Creek, and at mile 29.5 (47.5 km).

DRAINAGE AREA.--393 mi² (1,018 km²).

PERIOD OF RECORD.--June 1908 to September 1916, May 1930 to current year. Published as Coal River at Brushton, June 1908 to September 1916 and as Coal River at Ashford, May 1930 to September 1960.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1305: 1913-14(M). WSP 1335: 1912, 1916(M).

GAGE.--Water-stage recorder. Datum of gage is 622.46 ft (189.726 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 9, 1916, nonrecording gage at site 1.0 mi (1.6 km) upstream at different datum. May 7, 1930, to Feb. 10, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good except those for October, December, January, and February, which are poor.

AVERAGE DISCHARGE.--59 years, 520 ft³/s (14.73 m³/s), 17.97 in/yr (456 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 35,800 ft³/s (1,010 m³/s) Aug. 9, 1916, gage height, 36.3 ft (11.06 m), from floodmark, site and datum then in use, or 35.66 ft (10.869 m), from floodmark, present site and datum, from rating curve extended above 25,000 ft³/s (710 m³/s); no flow Sept. 18-21, 24, Oct. 6-12, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft³/s (160 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
June 5	0400	*8330	236	13.58	4.139	June 7	1330	5630	159	10.54	3.213

Minimum discharge, 29 ft³/s (0.82 m³/s) Aug. 31, Sept. 30, gage height 1.60 ft (0.488 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	57	224	236	256	1100	535	499	1600	172	79	34
2	75	54	213	271	1330	1300	667	499	3240	276	70	33
3	79	52	245	269	1760	1070	691	453	2410	172	66	36
4	88	50	250	210	1050	860	601	404	2860	160	66	59
5	86	47	240	160	700	1070	661	361	5860	138	61	71
6	77	46	229	180	520	1760	944	338	2810	325	95	49
7	66	45	209	200	430	1410	899	334	4920	511	133	54
8	59	45	187	160	360	1050	751	288	2730	320	128	59
9	59	42	197	130	320	834	661	256	1460	216	98	73
10	58	45	251	110	280	691	631	230	1050	190	83	57
11	54	44	289	98	260	595	601	230	977	589	68	43
12	54	41	286	110	380	517	565	272	733	252	81	37
13	45	42	270	130	580	453	873	240	703	181	64	34
14	42	40	242	120	560	404	886	216	709	157	59	37
15	52	38	215	110	547	352	1270	415	577	347	59	123
16	80	38	206	100	493	387	1050	505	448	216	73	135
17	84	55	189	90	505	571	1700	393	398	166	85	89
18	86	206	169	80	619	613	3680	329	365	143	61	64
19	94	264	156	72	679	607	2050	763	296	120	52	64
20	92	190	120	68	853	577	1710	2550	272	108	46	61
21	78	146	82	90	1180	523	1600	1960	268	100	43	54
22	54	120	80	140	1140	493	1310	1110	237	103	40	46
23	50	110	94	210	1370	523	1050	751	212	89	39	40
24	47	390	110	300	1960	589	1050	553	187	79	36	36
25	74	810	120	393	1480	703	951	431	163	73	36	34
26	120	539	110	393	1090	782	801	352	169	73	34	34
27	130	400	100	499	840	739	691	329	190	75	33	33
28	98	341	110	562	727	691	595	409	151	138	31	34
29	110	294	130	461	---	601	535	577	133	169	31	34
30	84	259	150	351	---	565	523	625	128	125	31	31
31	64	---	180	272	---	577	---	1050	---	95	31	---
TOTAL	2314	4850	5653	6575	22269	23007	30532	17722	36256	5878	1912	1588
MEAN	74.6	162	182	212	795	742	1018	572	1209	190	61.7	52.9
MAX	130	810	289	562	1960	1760	3680	2550	5860	589	133	135
MIN	42	38	80	68	256	352	523	216	128	73	31	31
CFSM	.19	.41	.46	.54	2.02	1.89	2.59	1.46	3.08	.48	.16	.14
IN.	.22	.46	.54	.62	2.11	2.18	2.89	1.68	3.43	.56	.18	.15

CAL YR 1980	TOTAL	215363	MEAN 588	MAX 10200	MIN 38	CFSM 1.50	IN 20.39
WTR YR 1981	TOTAL	158556	MEAN 434	MAX 5860	MIN 31	CFSM 1.10	IN 15.01

KANAWHA RIVER BASIN

03198550 BIG COAL RIVER NEAR ALUM CREEK, WV

LOCATION.--Lat 38°15'00", long 81°47'54", Kanawha County, Hydrologic Unit 05050009, at Charleston & Ohio Railroad bridge at end of Sproul Tunnel, 2.6 mi (4.2 km) south of Alum Creek, and at mile 2.1 (3.4 km).

DRAINAGE AREA.--442 mi² (1,145 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 588.75 ft (179.451 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1976, nonrecording gage at same site. Prior to Jan. 30, 1976, at datum 0.50 ft (0.152 m) lower and Jan. 30 to Apr. 13, 1976, at same datum.

REMARKS.--Water-discharge records fair except those for periods of no gage-height record, Oct. 1 to Nov. 17 and Aug. 1 to Sept. 30, and those for December, January and February, which are poor.

AVERAGE DISCHARGE.--7 years, 704 ft³/s (19.94 m³/s), 21.63 in/yr (549 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,600 ft³/s (810 m³/s) Jan. 26, 1978, gage height, 32.24 ft (9.827 m), observed, from rating curve extended above 6,700 ft³/s (190 m³/s); minimum daily, 31 ft³/s (0.88 m³/s) Oct. 11, Nov. 3, 1978, Sept. 14, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 18	0900	6340 180	14.31 4.362	June 7	1300	8600 244	17.13 5.221
June 5	0800	*10200 289	19.16 5.840				

Minimum daily discharge, 31 ft³/s (0.88 m³/s) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	78	259	261	279	1120	543	565	1490	204	96	36
2	84	70	239	304	1400	1400	641	551	3980	295	82	37
3	86	64	264	309	1970	1140	705	515	2940	209	74	37
4	98	60	266	270	1120	895	622	463	2790	185	77	40
5	96	56	264	180	760	1050	693	421	8310	159	79	70
6	92	52	254	210	600	1870	962	395	3910	304	102	74
7	80	50	239	230	460	1520	944	392	6940	508	152	56
8	69	48	210	200	400	1130	804	338	3900	380	161	60
9	69	47	227	170	340	879	713	301	1620	250	137	66
10	76	49	287	140	310	742	669	271	1160	216	104	80
11	57	49	329	110	340	637	661	266	1040	566	84	60
12	55	46	326	120	430	565	641	290	796	309	76	43
13	52	48	306	140	600	504	1140	282	776	216	90	36
14	50	46	274	150	620	457	1050	243	788	171	70	31
15	56	44	246	130	580	408	1370	417	645	318	66	128
16	88	44	236	110	507	424	1180	508	504	261	72	201
17	98	60	217	98	524	580	1970	417	437	190	91	93
18	98	296	199	90	612	626	5200	362	405	159	80	70
19	110	320	170	82	678	629	2470	803	344	134	75	75
20	110	244	130	78	850	603	1850	3300	309	120	65	67
21	100	185	96	110	1190	562	1730	2200	298	106	52	59
22	70	156	90	150	1220	529	1660	1230	274	112	46	48
23	58	132	120	240	1470	554	1100	829	240	104	43	50
24	52	453	147	350	2210	591	1060	622	216	95	40	43
25	80	890	138	433	1610	697	970	490	190	86	37	39
26	130	635	130	423	1150	788	821	421	185	82	40	38
27	140	466	110	503	868	750	717	386	206	78	38	38
28	120	401	120	578	739	709	622	430	180	102	36	36
29	120	349	150	493	---	626	576	565	157	248	35	38
30	100	298	190	385	---	591	565	637	150	137	35	37
31	88	---	220	301	---	595	---	884	---	114	35	---
TOTAL	2666	5736	6453	7348	23837	24171	34649	19794	45180	6418	2270	1786
MEAN	86.0	191	208	237	851	780	1155	639	1506	207	73.2	59.5
MAX	140	890	329	578	2210	1870	5200	3300	8310	566	161	201
MIN	50	44	90	78	279	408	543	243	150	78	35	31
CFSM	.20	.43	.47	.54	1.93	1.77	2.61	1.45	3.41	.47	.17	.14
IN.	.22	.48	.54	.62	2.01	2.03	2.92	1.67	3.80	.54	.19	.15

CAL YR 1980	TOTAL	235336	MEAN	643	MAX	8270	MIN	44	CFSM	1.46	IN	19.81
WTR YR 1981	TOTAL	180308	MEAN	494	MAX	8310	MIN	31	CFSM	1.12	IN	15.18

KANAWHA RIVER BASIN

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03198550 BIG COAL RIVER NEAR ALUM CREEK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 806 micromhos Oct. 3, 1975; minimum daily, 70 micromhos Jan. 13, 1979.

WATER TEMPERATURES: October 1974 to September 1980.

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 806 micromhos Oct. 3, 1975; minimum daily, 70 micromhos Jan. 13, 1979.

WATER TEMPERATURES: Maximum daily, 30.0°C several days during summer periods 1975, 1977, 1978; minimum daily, 0.0°C many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,050 mg/L Jan. 26, 1978; minimum daily mean, 0 mg/L several days in 1981.

SEDIMENT LOADS: Maximum daily, 137,000 tons (124,000 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) several days in 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 680 micromhos Sept. 14; minimum daily, 132 micromhos June 7.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,000 mg/L June 5; minimum daily mean, 0 mg/L several days during year.

SEDIMENT LOADS: Maximum daily, 22,400 tons (20,300 metric tons) June 5; minimum daily, 0 ton (0 metric ton) several days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CaCO3)
OCT						
07...	1030	76	480	7.5	12.5	--
DEC						
30...	1100	230	320	7.0	.5	--
30...	1540	215	320	7.6	2.5	--
FEB						
25...	1345	1540	180	6.6	7.0	--
MAR						
14...	1835	855	210	7.4	5.0	--
31...	1105	614	245	7.1	12.0	--
APR						
16...	1055	1210	190	--	12.5	--
MAY						
04...	0850	467	290	7.9	12.5	--
26...	1320	434	--	7.2	19.0	--
JUL						
20...	1320	113	392	7.5	27.0	110
29...	1015	223	380	7.4	22.0	--

KANAWHA RIVER BASIN

03198550 BIG COAL RIVER NEAR ALUM CREEK, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM DIS- SOLVED (MG/L AS MG)	SODIUM DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LILITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 07...	--	--	--	--	59	--	--	--
JUL 20...	24	13	20	.8	38	95	9.6	214

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 07...	--	--	--	--	--	--	--	--
JUL 20...	.29	65.3	570	540	30	80	30	50

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	417	452	257	280	255	220	244	---	209	432	460	650
2	422	---	270	262	185	200	252	268	160	449	481	630
3	435	471	275	256	237	210	228	278	145	439	500	650
4	436	263	273	270	---	236	218	286	136	---	519	650
5	---	475	278	262	---	156	244	290	142	411	530	---
6	450	480	268	261	260	---	223	294	158	---	499	---
7	465	475	274	265	205	170	---	307	132	---	493	---
8	---	---	273	260	216	185	201	318	163	---	500	670
9	492	490	262	270	230	204	213	---	221	---	524	660
10	473	500	266	---	244	221	225	336	---	---	537	---
11	505	495	270	---	300	270	---	295	273	269	537	615
12	500	505	277	---	250	278	234	362	280	---	499	630
13	518	512	218	---	---	256	198	---	282	282	497	655
14	520	510	284	---	---	265	194	373	---	334	502	680
15	529	518	243	---	215	278	186	---	283	373	---	561
16	570	524	277	---	250	273	185	330	302	356	521	---
17	---	500	277	---	240	---	166	289	330	312	541	461
18	295	---	289	---	240	240	152	271	350	322	533	470
19	---	370	---	---	230	242	---	237	358	350	517	---
20	268	370	292	---	---	238	174	160	362	363	---	---
21	261	430	289	---	210	240	---	153	381	382	536	535
22	275	346	279	---	190	---	188	---	388	450	---	679
23	309	---	275	280	178	250	---	---	399	426	---	---
24	318	235	303	260	170	248	---	---	412	450	590	---
25	293	273	---	295	178	240	---	---	423	464	586	---
26	352	---	---	291	172	163	---	232	437	469	611	610
27	407	214	330	241	202	209	---	271	450	483	604	598
28	---	---	328	258	215	---	---	313	465	---	612	630
29	424	235	312	219	---	225	---	318	---	380	633	640
30	264	248	290	206	---	236	268	271	464	412	640	---
31	410	---	---	---	---	254	---	---	---	442	650	---
MEAN	408	412	279	261	221	230	210	284	300	393	543	614
WTR YR 1981	MEAN	347		MAX	680		MIN	132				

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH									
1	1	.23	2	.42	7	4.9	18	13	12	9.0	103	311								
2	2	.45	2	.38	20	13	19	16	714	3140	73	276								
3	1	.23	0	.00	37	26	17	14	223	1190	46	142								
4	1	.26	3	.49	19	14	7	5.1	13	39	72	174								
5	1	.26	2	.30	7	5.0	3	1.5	7	14	194	616								
6	0	.00	1	.14	8	5.5	10	5.7	40	65	241	1210								
7	1	.22	2	.27	9	5.8	4	2.5	51	63	107	439								
8	0	.00	2	.26	4	2.3	4	2.2	23	25	73	223								
9	0	.00	2	.25	22	13	3	1.4	16	15	47	112								
10	0	.00	2	.26	23	18	2	.76	12	10	26	52								
11	0	.00	4	.53	16	14	0	.00	6	5.5	19	33								
12	0	.00	3	.37	9	7.9	5	1.6	5	5.8	13	20								
13	1	.14	2	.26	6	5.0	20	7.6	42	68	15	20								
14	1	.14	0	.00	4	3.0	10	4.1	57	95	11	14								
15	2	.30	2	.24	2	1.3	7	2.5	27	42	8	8.8								
16	3	.71	1	.12	1	.64	5	1.5	13	18	23	26								
17	3	.79	15	2.4	3	1.8	4	1.1	53	75	22	34								
18	3	.79	145	123	12	6.4	5	1.2	97	160	6	10								
19	4	1.2	133	123	9	4.1	7	1.5	128	234	14	24								
20	3	.89	31	20	4	1.4	10	2.1	136	312	12	20								
21	1	.27	11	5.5	3	.78	20	5.9	245	786	10	15								
22	1	.19	8	3.4	3	.73	42	17	324	1050	10	14								
23	1	.16	7	2.5	6	1.9	110	71	396	1610	11	16								
24	1	.14	183	294	6	2.4	62	59	423	2520	12	19								
25	7	1.5	304	740	5	1.9	111	130	181	807	20	38								
26	12	4.2	118	202	5	1.8	36	41	40	124	13	28								
27	2	.76	47	59	10	3.0	37	50	49	115	16	32								
28	2	.65	27	29	6	1.9	60	94	77	154	18	34								
29	4	1.3	16	15	3	1.2	30	40	---	---	17	29								
30	17	4.6	10	8.0	3	1.5	12	12	---	---	16	26								
31	6	1.4	---	---	7	4.2	10	8.1	---	---	16	26								
TOTAL	---	21.78	---	1631.09	---	174.35	---	613.36	---	12751.3	---	4041.8								
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER										
1	25	37	47	72	194	471	88	51	7	1.8	4	.39								
2	61	106	28	42	692	7360	110	88	7	1.5	6	.60								
3	77	147	22	31	416	3200	47	27	5	1.0	9	.90								
4	38	64	16	20	665	4980	107	53	8	1.7	13	1.4								
5	12	22	12	14	1000	22400	37	16	10	2.1	15	2.8								
6	62	161	9	9.6	338	3580	114	94	23	6.3	16	3.2								
7	33	84	9	9.5	650	12000	281	399	100	41	20	3.0								
8	17	37	7	6.4	400	4210	225	231	34	15	22	3.6								
9	21	40	6	4.9	325	1420	43	29	10	3.7	36	6.4								
10	73	132	7	5.1	275	861	37	22	10	2.8	14	3.0								
11	35	62	7	5.0	170	477	250	382	10	2.3	13	2.1								
12	28	48	7	5.5	88	189	150	125	24	4.9	7	.81								
13	123	379	9	6.9	92	193	75	44	17	4.1	5	.49								
14	77	218	13	8.5	75	160	31	14	16	3.0	4	.33								
15	159	588	117	138	58	101	153	137	15	2.7	69	36								
16	73	233	84	95	51	69	93	66	13	2.5	64	35								
17	289	1900	21	24	47	55	55	28	14	3.4	6	1.5								
18	650	9130	18	18	27	30	23	9.9	13	2.8	9	1.7								
19	285	1900	163	489	47	44	17	6.2	10	2.0	7	1.4								
20	225	1120	500	4450	20	17	13	4.2	7	1.2	4	.72								
21	159	743	200	1190	13	10	14	4.0	4	.56	10	1.6								
22	113	506	110	365	11	8.1	17	5.1	4	.50	7	.91								
23	23	68	74	166	10	6.5	26	7.3	5	.58	0	.00								
24	116	332	46	77	7	4.1	12	3.1	9	.97	1	.12								
25	55	144	21	28	4	2.1	7	1.6	3	.30	4	.42								
26	27	60	7	8.0	3	1.5	7	1.5	3	.32	10	1.0								
27	19	37	10	10	4	2.2	6	1.3	4	.41	7	.72								
28	14	24	12	14	4	1.9	154	42	2	.19	5	.49								
29	7	11	23	35	6	2.5	123	82	1	.09	1	.10								
30	47	72	28	48	36	15	47	17	6	.57	0	.00								
31	---	---	35	84	---	---	22	6.8	2	.19	---	---								
TOTAL	---	18405	---	7479.4	---	61870.9	---	1998.0	---	110.48	---	110.70								
TOTAL LOAD FOR YEAR: 109208.16 TONS.																				

KANAWHA RIVER BASIN

03199000 LITTLE COAL RIVER AT DANVILLE, WV

LOCATION.--Lat 38°04'47", long 81°50'12", Boone County, Hydrologic Unit 05050009, on right bank at upstream side of highway bridge at Danville, 900 ft (274 m) upstream from Turtle Creek, 2.3 mi (3.7 km) downstream from confluence of Pond and Spruce Forks, and at mile 24.7 (39.7 km).

DRAINAGE AREA.--270 mi² (699 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to current year. Prior to October 1941, published as "at Madison."

REVISED RECORDS.--WSP 1725: 1951(M), 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 661.09 ft (201.500 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1941, nonrecording gage at site 1.5 mi (2.4 km) upstream at datum 6.80 ft (2.073 m) higher.

REMARKS.--Water-discharge records good except those for April, which are fair, and those for December, January, and February, which are poor.

AVERAGE DISCHARGE.--51 years, 357 ft³/s (10.11 m³/s), 17.96 in/yr (456 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,800 ft³/s (1,210 m³/s) Feb. 3, 1939, gage height, 30.2 ft (9.20 m), from floodmarks, present site and datum, from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of slope-area measurement of peak flow; no flow at times July to October 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,500 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 5	0130	*6440 182	12.57 3.831	June 7	0415	*5890 167	11.81 3.600

Minimum discharge, 24 ft³/s (0.68 m³/s) Sept. 30, gage height, 1.85 ft (0.564 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	44	130	155	132	892	361	349	1430	122	60	29
2	60	46	135	172	1280	916	440	340	2430	120	57	29
3	64	45	184	163	1040	715	408	307	1110	102	57	42
4	64	44	166	100	520	590	376	283	1960	102	52	80
5	61	44	163	78	380	826	496	262	4070	135	46	58
6	55	45	147	100	300	1050	585	244	2220	428	145	42
7	51	39	130	110	250	886	570	232	4120	337	108	37
8	48	36	117	94	210	685	508	202	1680	190	84	45
9	46	39	135	78	190	552	468	181	940	145	72	63
10	45	39	202	64	180	472	988	166	710	120	58	40
11	45	36	196	50	250	416	838	175	988	226	51	30
12	46	33	187	60	350	370	680	178	645	142	57	28
13	45	32	175	64	380	337	590	152	665	115	55	27
14	43	33	152	56	340	310	552	145	685	142	46	32
15	43	34	135	52	310	280	565	322	508	120	43	88
16	43	36	135	45	313	373	500	235	394	98	68	117
17	42	50	120	40	352	424	1670	190	370	94	55	72
18	46	226	104	35	432	428	2280	181	301	87	40	52
19	48	145	98	34	508	416	1170	610	259	80	36	52
20	46	100	70	35	685	394	1040	1890	247	77	34	51
21	43	80	56	50	705	364	856	1010	223	74	33	42
22	42	70	52	80	630	355	715	620	205	82	34	37
23	39	64	80	140	1150	391	625	444	184	68	34	37
24	37	420	96	160	1450	496	685	349	155	64	33	34
25	70	428	94	199	946	516	590	289	142	64	32	29
26	115	274	70	199	695	488	500	253	163	60	31	29
27	68	223	66	256	548	464	440	241	132	63	29	29
28	68	196	60	265	500	412	388	307	120	87	31	29
29	63	175	58	217	---	376	364	408	112	110	30	28
30	55	150	90	163	---	379	376	385	112	84	31	26
31	49	---	120	117	---	355	---	976	---	63	36	---
TOTAL	1653	3226	3723	3431	15026	15928	20624	11926	27280	3801	1578	1334
MEAN	53.3	108	120	111	537	514	687	385	909	123	50.9	44.5
MAX	115	428	202	265	1450	1050	2280	1890	4120	428	145	117
MIN	37	32	52	34	132	280	361	145	112	60	29	26
CFSM	.20	.40	.44	.41	1.99	1.90	2.54	1.43	3.37	.46	.19	.17
IN.	.23	.44	.51	.47	2.07	2.19	2.84	1.64	3.76	.52	.22	.18

CAL YR 1980	TOTAL	148025	MEAN 404	MAX 5540	MIN 32	CFSM 1.50	IN 20.39
WTR YR 1981	TOTAL	109530	MEAN 300	MAX 4120	MIN 26	CFSM 1.11	IN 15.09

KANAWHA RIVER BASIN

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03199000 LITTLE COAL RIVER AT DANVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1973 to current year.

WATER TEMPERATURES: July 1973 to current year.

SUSPENDED-SEDIMENT DISCHARGE: August 1973 to current year.

INSTRUMENTATION.--Temperature recorder since July 31, 1973.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,690 micromhos Oct. 18, 1973; minimum daily, 75 micromhos June 22, 1979.

WATER TEMPERATURES: Maximum, 34.5°C July 18, 19, 1977; minimum, 0.0°C Jan. 14-18, 1975.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,230 mg/L Nov. 27, 1973; minimum daily mean, 0 mg/L several days in 1974, 1979, July 3, 1980, 1981.

SEDIMENT LOADS: Maximum daily, 110,000 tons (99,800 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) several days in 1974, 1979, July 3, 1980, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,320 micromhos Sept. 28; minimum daily, 145 micromhos June 7.

WATER TEMPERATURES: Maximum, 30.5°C July 26; minimum, 0.5°C Dec. 21, 22.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,130 mg/L June 4; minimum daily mean, 0 mg/L several days in October.

SEDIMENT LOADS: Maximum daily, 6,810 tons (6,180 metric tons) June 5; minimum daily, 0 ton (0 metric ton) several days in October.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	902	1070	470	527	460	290	425	445	190	775	982	1250
2	980	1140	475	468	158	265	368	---	195	790	900	1260
3	950	1140	556	457	159	280	370	460	236	790	1060	1020
4	950	1100	527	---	235	320	390	420	177	845	1080	1090
5	930	1180	537	---	280	313	368	520	155	855	1100	975
6	955	1120	542	523	330	253	314	540	209	470	834	930
7	970	1170	545	561	360	264	311	555	145	425	715	1030
8	990	1160	570	528	385	305	330	582	256	515	747	877
9	1020	1180	522	556	370	342	350	615	314	610	873	1050
10	1020	1180	541	616	410	371	270	640	356	680	925	980
11	1040	1140	460	594	---	410	254	650	298	650	958	985
12	1040	1160	449	671	318	437	279	645	353	595	1050	1080
13	1040	1160	444	680	285	460	309	660	347	675	995	1170
14	1050	1180	463	691	305	490	347	690	340	710	1010	1200
15	1050	1140	486	670	321	520	314	520	388	600	1020	821
16	1060	1100	508	649	345	500	345	470	440	710	1080	759
17	1080	1100	539	693	350	420	277	560	488	780	930	780
18	1080	---	556	704	321	405	169	590	498	780	890	828
19	1160	565	585	757	311	405	227	375	538	855	990	915
20	1160	550	600	692	280	410	258	195	575	855	960	997
21	1180	630	781	652	290	430	472	230	580	825	1030	1000
22	1200	680	---	528	300	438	300	288	585	880	1050	1030
23	1220	720	850	418	260	420	330	370	610	825	1090	1070
24	1280	495	798	365	206	348	318	400	660	900	1080	1120
25	1120	313	---	355	250	345	330	430	680	825	1080	1130
26	995	330	---	362	300	332	358	480	655	950	1090	1150
27	850	370	690	352	340	350	382	489	695	970	1100	1160
28	890	398	708	319	360	368	405	530	720	988	1230	1320
29	862	420	644	362	---	390	440	410	755	800	1220	1210
30	960	438	600	400	---	390	425	382	770	740	1220	1240
31	1030	---	569	441	---	405	---	263	---	730	1250	---
MEAN	1030	873	572	538	307	377	335	480	440	755	1020	1050
WTR YR 1981	MEAN	652	MAX	1320	MIN	145						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.5	16.5	11.0	7.5	6.5	6.0	3.5	3.5	5.5	5.5	8.5	7.5
2	19.5	16.5	10.5	7.5	6.5	6.0	3.5	3.5	5.5	5.5	8.0	7.5
3	18.5	14.5	11.5	7.5	6.5	5.0	3.5	3.5	5.5	5.5	7.5	6.5
4	16.5	13.5	13.5	10.5	5.0	3.5	3.5	3.0	5.5	5.0	7.5	6.0
5	14.0	12.5	12.5	10.5	4.5	3.5	3.0	3.0	5.0	4.5	7.5	6.5
6	15.5	11.5	10.5	7.5	7.0	4.5	3.0	2.5	4.5	4.5	7.5	6.5
7	15.5	11.5	11.5	7.5	9.5	7.0	2.5	2.5	4.5	4.5	7.0	6.0
8	17.0	12.0	14.5	11.0	9.5	8.0	2.5	2.5	5.0	4.5	7.0	6.0
9	19.0	14.0	13.5	11.5	10.5	9.5	2.5	2.5	5.0	4.5	7.0	6.5
10	20.5	16.5	13.0	10.0	10.0	7.0	2.5	2.5	5.5	4.5	8.0	7.5
11	21.5	17.5	10.5	7.5	7.0	5.0	2.5	2.5	7.0	5.5	8.0	8.0
12	17.5	14.5	8.5	6.0	5.0	4.0	2.5	2.5	7.0	6.0	9.0	7.0
13	15.5	12.0	7.5	6.0	5.0	4.0	2.5	2.0	6.0	5.5	9.5	8.0
14	14.5	10.5	7.5	6.5	5.0	4.0	2.0	1.0	5.5	5.5	9.0	7.5
15	15.5	10.5	8.5	7.5	4.5	3.5	2.5	2.0	6.5	5.5	9.5	6.5
16	16.5	11.5	8.5	7.5	4.0	3.5	2.0	2.0	7.0	6.5	9.5	7.5
17	17.0	12.5	7.5	7.0	4.0	3.5	2.0	2.0	9.0	7.0	7.5	5.5
18	15.5	16.0	7.0	6.5	3.5	2.5	2.0	2.0	10.0	9.0	7.5	7.0
19	14.5	15.5	6.5	6.5	3.5	3.0	2.0	2.0	9.5	9.5	7.0	6.0
20	15.5	13.0	6.5	5.5	3.0	1.5	2.0	2.0	9.5	8.5	6.5	5.5
21	16.0	12.0	5.5	4.0	1.5	.5	2.0	2.0	9.5	8.5	7.5	5.5
22	15.5	11.5	5.0	3.5	1.0	.5	2.0	2.0	10.0	8.5	7.5	7.0
23	14.5	12.0	5.0	4.5	1.0	1.0	2.5	2.0	10.0	9.5	8.5	7.0
24	14.5	11.0	8.0	5.0	1.0	1.0	4.5	2.5	10.0	7.0	10.0	8.0
25	13.5	10.5	8.0	7.0	1.0	1.0	5.0	4.5	7.5	5.5	10.5	9.0
26	10.5	9.0	7.0	5.5	1.0	1.0	6.0	5.0	7.5	6.0	10.5	9.0
27	9.5	7.5	6.5	5.5	1.0	1.0	7.0	6.0	7.0	5.5	11.0	10.0
28	12.0	9.5	6.5	6.0	1.0	1.0	7.5	7.0	7.5	7.0	12.5	9.5
29	11.5	10.0	6.0	5.5	1.0	1.0	7.0	6.0	---	---	14.0	12.5
30	11.5	8.5	5.5	4.5	1.0	1.0	6.0	6.0	---	---	15.5	14.0
31	10.5	7.5	---	---	3.5	1.0	6.0	5.5	---	---	16.5	13.0
MONTH	20.5	7.5	14.5	3.5	10.5	.5	7.5	1.0	10.0	4.5	16.5	5.5
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	15.5	13.0	15.5	14.5	17.0	15.5	25.0	23.0	27.0	21.0	26.0	22.0
2	13.5	11.5	14.5	13.5	17.0	15.5	24.5	22.0	25.0	23.0	27.5	22.5
3	13.5	12.0	15.5	12.5	18.5	16.5	24.0	22.0	27.5	23.0	25.5	23.5
4	15.5	13.5	17.5	13.5	18.0	18.0	25.0	21.5	28.5	23.5	24.0	23.0
5	15.0	13.5	14.5	15.5	18.0	15.5	25.5	23.5	28.5	24.5	25.5	22.5
6	13.5	11.0	17.5	15.5	18.0	16.5	24.5	22.5	27.5	24.5	25.5	22.5
7	12.0	9.5	17.0	14.0	18.0	16.0	25.5	22.0	24.5	23.5	25.5	22.5
8	13.5	11.0	18.0	13.5	19.0	16.0	27.5	24.0	26.0	22.5	24.5	22.0
9	14.0	13.0	19.5	14.5	19.5	18.0	25.0	25.5	26.5	22.5	22.5	20.5
10	13.0	12.0	19.5	17.0	20.0	19.5	25.0	26.0	28.0	22.5	25.0	19.5
11	15.0	12.5	18.5	16.5	20.0	18.5	28.0	25.5	26.5	23.0	26.5	18.5
12	15.0	14.0	16.5	14.0	20.0	19.0	28.0	25.0	27.5	23.5	26.5	19.5
13	17.0	14.5	17.0	12.5	20.0	19.5	28.0	25.0	26.5	22.0	27.0	19.5
14	17.0	15.0	19.5	15.0	21.5	20.0	28.0	25.5	26.5	22.0	25.5	19.5
15	15.0	12.5	18.5	15.5	23.0	21.5	28.0	24.0	26.0	22.0	22.5	20.5
16	14.0	11.5	16.5	14.0	24.0	22.0	26.5	24.0	26.5	23.5	20.5	20.0
17	14.0	12.5	19.5	15.0	23.5	22.5	28.0	24.5	25.5	22.5	20.5	19.0
18	14.5	12.0	18.0	16.5	23.5	20.5	28.5	24.5	25.5	20.0	19.0	17.0
19	15.0	12.0	16.0	14.0	25.0	22.5	25.0	25.0	24.5	20.5	17.5	16.5
20	14.0	13.0	14.0	13.5	24.0	22.5	28.5	26.5	26.5	20.5	19.0	16.0
21	13.0	10.5	15.5	13.0	24.5	21.5	28.5	26.0	23.0	20.0	20.5	16.5
22	13.5	12.0	16.0	14.0	25.5	22.5	28.5	25.0	26.0	19.0	21.0	17.0
23	14.5	12.0	18.0	15.5	25.5	22.0	28.5	24.5	26.5	20.0	20.5	15.0
24	14.5	11.5	19.5	17.0	26.5	21.5	25.0	24.5	25.5	20.5	21.5	13.5
25	12.5	10.5	19.0	18.0	27.0	22.5	25.0	25.5	27.0	21.5	21.5	13.0
26	12.5	12.0	20.5	18.0	25.5	23.0	30.5	25.5	26.5	20.5	22.5	15.0
27	15.5	12.5	20.0	19.0	25.5	21.0	30.0	26.5	26.0	21.5	21.5	17.0
28	18.5	15.5	19.0	17.5	25.5	20.5	28.0	25.0	26.0	21.5	23.0	16.0
29	18.0	16.5	18.5	17.0	26.5	21.5	25.0	23.0	26.0	21.5	20.5	13.5
30	17.0	15.5	19.5	17.0	26.0	23.0	26.0	21.0	26.5	22.0	21.5	15.5
31	---	---	19.0	16.5	---	---	26.5	21.0	28.0	22.0	---	---
MONTH	14.5	9.5	20.5	12.5	27.0	15.5	30.5	21.0	28.5	19.0	27.5	13.0
YEAR	30.5	.5										

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH																				
1	7	1.2	4	.48	5	1.8	12	5.0	8	2.9	200	482								
2	4	.65	4	.50	36	13	12	5.6	529	2190	198	490								
3	3	.52	4	.49	39	19	10	4.4	102	286	165	319								
4	2	.35	5	.59	16	7.2	15	4.0	28	39	162	258								
5	2	.33	5	.59	5	2.2	20	4.5	42	43	320	739								
6	1	.15	5	.61	5	2.0	39	11	29	23	217	615								
7	1	.14	5	.53	5	1.8	13	3.9	17	11	187	447								
8	0	.00	4	.39	7	2.2	7	1.8	22	12	147	272								
9	0	.00	4	.42	32	12	7	1.5	16	8.2	65	97								
10	0	.00	3	.32	32	17	7	1.2	37	18	48	61								
11	0	.00	3	.29	12	6.4	7	.95	184	124	27	30								
12	2	.25	4	.36	5	2.5	7	1.1	78	74	28	28								
13	2	.24	4	.35	4	1.9	17	2.9	122	125	22	20								
14	0	.00	2	.18	3	1.2	13	2.0	42	39	29	24								
15	1	.12	2	.18	3	1.1	7	.98	27	23	17	13								
16	2	.23	1	.10	2	.73	10	1.2	32	27	98	109								
17	3	.34	87	12	2	.65	7	.76	57	54	56	64								
18	1	.12	205	120	2	.56	7	.66	72	84	33	38								
19	0	.00	28	11	2	.53	6	.55	59	81	26	29								
20	0	.00	10	2.7	1	.19	5	.47	191	362	24	26								
21	1	.12	4	.86	51	7.7	8	1.1	182	346	15	15								
22	2	.23	3	.57	60	8.4	22	4.8	155	264	17	16								
23	0	.00	7	1.2	13	2.8	48	18	490	1900	51	54								
24	5	.50	300	340	7	1.8	53	23	392	1560	89	119								
25	51	14	154	178	9	2.3	34	18	217	554	37	52								
26	24	7.5	32	24	10	1.9	30	16	112	210	26	34								
27	5	.92	12	7.2	17	3.0	74	51	74	109	26	33								
28	22	4.6	10	5.3	14	2.3	64	46	57	82	21	23								
29	7	1.2	17	8.0	12	1.9	31	18	---	---	22	22								
30	4	.59	5	2.0	13	3.2	12	5.3	---	---	32	33								
31	5	.66	---	---	10	3.2	7	2.2	---	---	19	18								
TOTAL	---	34.96	---	719.21	---	132.46	---	257.87	---	8651.1	---	4580								
APRIL MAY JUNE JULY AUGUST SEPTEMBER																				
1	53	58	37	35	594	3390	4	1.3	11	1.8	30	2.3								
2	77	91	21	19	514	3600	5	1.6	7	1.1	10	.78								
3	68	75	12	9.9	156	468	4	1.1	10	1.5	50	5.7								
4	40	41	9	6.9	1130	5980	6	1.7	7	.98	75	16								
5	120	161	6	4.2	620	6810	35	41	7	.87	24	3.8								
6	57	90	6	4.0	230	1380	480	393	85	33	14	1.6								
7	45	69	5	3.1	522	6240	250	227	25	7.3	13	1.3								
8	36	49	4	2.2	264	1200	49	25	30	6.8	54	6.6								
9	32	40	5	2.4	174	442	22	8.6	19	3.7	42	7.1								
10	359	964	6	2.7	165	316	28	9.1	7	1.1	12	1.3								
11	217	491	7	3.3	223	595	180	118	14	1.9	12	.97								
12	98	180	6	2.9	118	205	63	24	10	1.5	7	.53								
13	55	88	5	2.1	116	208	32	9.9	5	.74	6	.44								
14	45	67	26	13	145	268	74	31	4	.50	37	4.8								
15	37	56	160	144	56	77	75	24	4	.46	125	30								
16	35	47	32	20	37	39	43	11	43	9.0	70	22								
17	868	5030	10	5.1	58	58	17	4.3	22	3.3	33	6.4								
18	353	2170	10	4.9	27	22	14	3.3	7	.76	30	4.2								
19	167	528	258	647	17	12	14	3.0	6	.58	12	1.7								
20	179	503	325	1660	12	8.0	12	2.5	6	.55	10	1.4								
21	77	178	130	355	12	7.2	16	3.2	8	.71	9	1.0								
22	48	93	82	137	27	15	16	3.5	8	.73	8	.80								
23	61	105	37	44	12	6.0	10	1.8	7	.64	7	.70								
24	107	198	13	12	7	2.9	8	1.4	6	.53	13	1.2								
25	43	68	18	14	5	1.9	35	6.0	5	.43	12	.94								
26	27	36	10	6.8	5	2.2	13	2.1	6	.50	7	.55								
27	24	29	7	4.6	5	1.8	11	1.9	7	.55	8	.63								
28	15	16	22	18	2	.65	100	23	9	.75	12	.94								
29	11	11	45	50	3	.91	49	15	6	.49	16	1.2								
30	120	122	123	129	1	.30	14	3.2	4	.33	14	.98								
31	---	---	274	771	---	---	15	2.6	42	5.6	---	---								
TOTAL	---	11654	---	4133.1	---	31356.86	---	1004.1	---	88.70	---	127.86								
TOTAL LOAD FOR YEAR: 62740.22 TONS.																				

KANAWHA RIVER BASIN

03199300 ROCK CREEK NEAR DANVILLE, WV

LOCATION.--Lat 38°06'01", long 81°49'48", Boone County, Hydrologic Unit 05050009, 1.5 mi (2.4 km) north of Danville and at mile 1.15 (1.9 km), 0.6 mi (1.0 km) north of intersection of U.S. Route 119 and State Route 3.

DRAINAGE AREA.--12.2 mi² (31.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 675.47 ft (205.88 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for December, January, February, and May which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,420 ft³/s (40.2 m³/s) June 4, 1981, gage height, 8.76 ft (2.670 m); minimum daily, 0.21 ft³/s (0.006 m³/s) Aug. 26, 27, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 400 ft³/s (11 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 18	0030	527 14.9	6.41 1.954	June 4	1815	*1420 40.2	8.76 2.670

Minimum daily discharge, 0.21 ft³/s (0.006 m³/s) Aug. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.2	6.5	11	8.8	49	9.7	18	85	3.2	.95	.26
2	1.8	.90	8.0	13	86	41	8.8	15	123	1.8	.67	.26
3	2.2	.90	8.8	13	58	30	7.2	14	58	1.6	.67	.43
4	1.9	1.4	8.8	10	26	22	7.2	9.7	210	1.5	.57	2.0
5	1.8	1.4	8.8	7.6	17	31	21	8.8	275	1.8	.48	.43
6	1.4	1.2	7.2	8.6	12	35	22	8.0	222	5.3	1.5	.27
7	1.4	1.2	5.9	8.2	8.8	31	20	7.2	192	2.5	.67	.24
8	.90	1.4	4.7	6.6	7.6	23	18	5.9	104	2.0	.62	1.5
9	.90	1.5	9.7	5.4	6.8	18	19	4.7	66	1.6	.48	.62
10	.90	1.5	15	4.2	6.4	14	22	4.0	55	1.3	.39	.31
11	.90	1.5	15	4.5	10	11	30	4.0	45	1.3	.31	.27
12	.75	1.5	14	4.4	14	8.8	29	4.0	34	.95	.62	.26
13	.75	1.4	11	3.6	13	7.2	46	3.6	28	.95	.35	.24
14	.90	1.4	8.0	3.2	12	5.9	53	4.7	23	.95	.30	5.8
15	.90	1.5	6.5	3.0	11	5.3	65	21	12	.80	.29	34
16	1.2	1.6	6.5	2.7	11	9.7	46	13	7.5	.80	.52	9.0
17	1.2	3.0	4.7	2.4	14	8.8	99	8.0	5.8	.80	.35	2.7
18	1.4	18	4.3	2.3	15	9.7	246	8.8	4.6	.67	.27	1.6
19	1.9	4.7	4.0	2.2	16	9.7	85	45	4.0	.62	.26	1.6
20	1.5	2.8	3.3	2.2	28	9.7	93	37	5.8	.57	.26	.95
21	1.4	2.2	3.1	5.9	29	8.8	70	20	3.7	.52	.24	.67
22	1.4	1.9	2.9	15	25	9.7	52	13	3.7	.95	.24	.57
23	1.4	1.6	2.8	20	67	12	40	10	3.2	.57	.23	.52
24	1.4	60	4.2	17	61	15	32	8.0	2.7	.39	.23	.43
25	3.6	36	4.4	15	39	18	24	7.0	2.3	.43	.23	.39
26	2.1	21	3.6	14	26	15	19	6.0	2.1	.52	.21	.39
27	1.4	16	3.3	13	18	16	15	7.0	2.0	.52	.21	.35
28	2.4	14	3.1	10	19	13	12	8.0	1.8	11	.23	.31
29	2.2	11	3.0	7.9	---	12	12	10	1.6	4.9	.23	.31
30	1.6	8.0	4.0	6.0	---	13	14	9.0	3.7	2.3	.24	.31
31	1.4	---	6.1	6.4	---	11	---	21	---	1.5	.26	---
TOTAL	46.70	221.70	201.2	248.3	665.4	523.3	1236.9	363.4	1586.5	54.61	13.08	66.99
MEAN	1.51	7.39	6.49	8.01	23.8	16.9	41.2	11.7	52.9	1.76	.42	2.23
MAX	3.6	60	15	20	86	49	246	45	275	11	1.5	34
MIN	.75	.90	2.8	2.2	6.4	5.3	7.2	3.6	1.6	.39	.21	.24
CFSM	.12	.61	.53	.66	1.95	1.39	3.38	.96	4.34	.14	.03	.18
IN.	.14	.68	.61	.76	2.03	1.60	3.77	1.11	4.84	.17	.04	.20

CAL YR 1980	TOTAL	5881.10	MEAN	16.1	MAX	189	MIN	.75	CFSM	1.32	IN	17.93
WTR YR 1981	TOTAL	5228.08	MEAN	14.3	MAX	275	MIN	.21	CFSM	1.17	IN	15.94

KANAWHA RIVER BASIN

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03199300 ROCK CREEK NEAR DANVILLE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1979 to current year.

WATER TEMPERATURE: May 1979 to current year.

SUSPENDED-SEDIMENT DISCHARGE: May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 421 micromhos Sept. 23, 1981; minimum daily, 60 micromhos June 3, 1979.

WATER TEMPERATURES: Maximum daily, 28.0°C July 7, 8, 1980; minimum daily, 0.0°C several days in 1981.

SEDIMENT CONCENTRATIONS: Maximum daily, 861 mg/L May 31, 1981; minimum daily, 0 mg/L Feb. 9, 11, 1980.

SEDIMENT LOADS: Maximum daily, 378 tons (343 metric tons) June 6, 1980; minimum daily 0 tons (0 metric tons) Feb. 9, 11, 1980, many days in 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 421 micromhos Sept. 2, 3; minimum daily, 75 micromhos June 4.

WATER TEMPERATURES: Maximum daily, 28.0°C July 24; minimum daily, 0.0°C several days in December and January.

SEDIMENT CONCENTRATIONS: Maximum daily, 861 mg/L May 31; minimum daily, 1 mg/L several days during the year.

SEDIMENT LOADS: Maximum daily, 342 tons (310 metric tons) June 1; minimum daily, 0 ton (0 metric ton) many days during the year.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	238	140	138	112	109	142	126	77	215	279	420
2	250	236	157	142	106	108	128	125	106	188	280	421
3	249	235	162	143	114	112	128	136	106	176	280	421
4	249	234	160	142	114	122	128	140	75	223	278	311
5	262	240	160	143	116	114	118	136	91	224	278	310
6	250	249	163	128	124	112	117	137	98	222	283	298
7	250	257	223	138	140	112	117	155	118	221	293	295
8	252	260	160	141	140	112	119	158	118	212	283	295
9	261	260	186	158	138	128	117	153	118	209	278	290
10	261	260	198	159	140	125	109	153	142	245	300	295
11	269	268	161	152	150	124	109	153	155	241	280	355
12	268	265	160	150	132	124	108	130	155	236	291	350
13	269	268	204	150	128	138	109	129	154	240	285	350
14	274	272	160	150	130	136	100	129	155	262	285	350
15	277	265	159	159	130	163	101	147	155	260	268	180
16	281	265	161	167	138	122	105	138	196	259	369	190
17	292	265	160	165	130	122	90	138	173	256	370	170
18	290	151	160	165	130	121	110	138	191	273	370	285
19	302	151	164	162	130	165	101	140	180	273	360	285
20	302	165	165	222	120	134	109	102	182	273	365	281
21	301	164	166	221	106	134	110	102	185	277	365	281
22	314	99	165	145	104	137	109	102	171	291	360	305
23	310	121	153	127	104	118	115	136	186	291	365	305
24	251	97	154	130	112	122	116	136	194	291	362	---
25	250	130	156	126	114	122	125	137	197	291	418	340
26	259	126	155	130	113	122	125	---	196	291	418	335
27	258	126	154	126	108	150	124	136	199	294	418	302
28	240	142	147	126	108	126	124	150	197	272	418	395
29	220	140	165	145	---	127	126	165	232	279	420	366
30	213	140	160	132	---	125	125	150	232	280	420	---
31	221	---	136	112	---	127	---	---	---	---	420	---
MEAN	264	203	164	148	123	126	115	137	158	252	337	314
WTR YR 1981	MEAN	195	MAX	421	MIN	75						

KANAWHA RIVER BASIN

03199300 ROCK CREEK NEAR DANVILLE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.5	9.0	8.0	3.0	4.0	3.0	17.0	12.0	18.0	23.0	24.0	25.0
2	14.0	6.0	9.5	2.0	4.0	4.0	15.0	13.0	18.0	23.0	25.0	25.0
3	14.0	11.0	6.0	1.0	2.0	5.0	16.0	14.0	19.0	24.0	25.0	26.0
4	15.0	13.0	4.0	.0	3.0	7.0	16.0	15.0	19.0	24.0	25.0	23.0
5	15.0	11.0	7.0	.0	2.0	7.0	17.0	17.0	22.0	25.0	25.0	21.0
6	15.0	9.0	8.0	.0	3.0	7.0	16.0	14.0	21.0	25.0	26.0	24.0
7	13.0	12.0	9.0	.0	3.0	6.0	15.0	14.0	22.0	25.0	26.0	24.0
8	14.0	12.0	10.0	.0	1.0	5.0	14.0	15.0	23.0	25.0	27.0	22.0
9	16.0	12.0	8.0	.0	2.0	7.0	12.0	14.0	25.0	27.0	27.0	20.0
10	18.0	11.0	7.0	.0	3.0	7.0	16.0	12.0	23.0	25.0	26.0	20.0
11	13.0	11.0	5.0	.0	1.0	9.0	16.0	10.0	20.0	26.0	25.0	24.0
12	12.0	9.0	7.0	.0	1.0	10.0	17.0	11.0	19.0	26.0	25.0	23.0
13	11.0	8.0	8.0	1.0	3.0	9.0	17.0	12.0	20.0	27.0	26.0	22.0
14	11.0	7.0	7.0	1.0	1.0	7.0	---	13.0	24.0	23.0	26.0	22.0
15	12.0	8.0	6.0	1.0	4.0	7.0	15.0	13.0	25.0	24.0	26.0	19.0
16	13.0	7.0	5.0	1.0	6.0	5.0	13.0	13.0	26.0	25.0	27.0	19.0
17	14.0	7.0	7.0	.0	7.0	4.0	12.0	13.0	24.0	25.0	27.0	20.0
18	---	7.0	7.0	.0	9.0	3.0	12.0	14.0	24.0	25.0	26.5	21.0
19	12.0	8.0	6.0	1.0	8.0	4.0	12.0	12.5	25.0	25.0	27.0	21.0
20	11.0	6.0	4.0	1.0	8.0	5.0	12.0	13.0	25.0	25.0	27.0	20.0
21	11.0	4.0	2.0	1.0	8.0	7.0	12.0	---	25.0	25.0	26.0	20.0
22	11.0	6.0	.0	2.0	8.0	8.0	13.0	---	25.0	25.0	25.0	18.0
23	13.0	8.0	.0	3.0	8.0	10.0	13.0	15.0	25.0	24.0	25.0	15.0
24	11.0	10.0	.0	2.0	6.0	10.0	10.0	17.0	26.0	28.0	25.0	---
25	10.0	9.0	.0	3.0	5.0	7.0	10.0	18.0	26.0	26.0	26.0	18.0
26	10.0	8.0	.0	3.0	4.0	9.0	11.0	---	26.0	25.0	26.0	18.0
27	11.0	7.0	.0	3.0	4.0	10.0	13.0	---	25.0	27.0	26.0	17.0
28	13.0	5.0	2.0	4.0	4.0	12.0	15.0	19.0	24.0	25.0	27.0	---
29	---	11.0	2.0	4.0	---	14.0	17.0	18.0	23.0	20.0	27.0	16.0
30	11.0	6.0	2.0	5.0	---	16.0	13.0	19.5	23.0	26.0	27.0	17.0
31	9.0	---	3.0	5.0	---	17.0	---	---	---	---	26.0	---
MEAN	13.0	8.5	5.0	1.5	4.5	8.0	14.0	14.5	23.0	25.0	26.0	20.5
WTR YR 1981	MEAN	13.5		MAX	28.0		MIN	.0				

03199300 ROCK CREEK NEAR DANVILLE--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3	.01	3	.00	3	.05	14	.42	81	1.9	6	.79
2	1	.00	2	.00	25	.54	8	.28	192	49	8	.89
3	1	.00	2	.00	7	.17	6	.21	37	5.8	8	.65
4	2	.01	2	.00	4	.10	7	.19	13	.91	8	.48
5	1	.00	2	.00	7	.17	7	.14	20	.92	11	.92
6	1	.00	2	.00	5	.10	5	.12	7	.23	5	.47
7	2	.00	3	.00	5	.08	3	.07	8	.19	5	.42
8	1	.00	4	.01	5	.06	4	.07	10	.21	4	.25
9	2	.00	3	.01	4	.10	3	.04	10	.18	4	.19
10	3	.00	2	.00	5	.20	2	.02	7	.12	3	.11
11	3	.00	1	.00	4	.16	5	.06	27	.73	3	.09
12	3	.00	1	.00	5	.19	6	.07	37	1.4	6	.14
13	2	.00	2	.00	3	.09	5	.05	9	.32	34	.66
14	2	.00	3	.01	4	.09	3	.03	3	.10	39	.62
15	2	.00	6	.02	5	.09	2	.02	3	.09	35	.50
16	2	.00	6	.03	4	.07	2	.01	3	.09	8	.21
17	1	.00	33	.27	2	.03	1	.00	3	.11	3	.07
18	1	.00	37	2.3	3	.03	1	.00	5	.20	3	.08
19	3	.02	5	.06	3	.03	1	.00	7	.30	3	.08
20	3	.01	5	.04	3	.03	5	.03	50	3.8	5	.13
21	3	.01	4	.02	2	.02	7	.11	119	9.3	5	.12
22	2	.00	5	.03	2	.02	10	.41	122	8.2	5	.13
23	4	.01	4	.02	2	.02	10	.54	165	30	5	.16
24	9	.03	217	41	1	.01	10	.46	17	2.8	5	.20
25	26	.26	21	2.1	1	.01	11	.45	7	.74	4	.19
26	3	.02	12	.68	3	.03	9	.34	8	.56	6	.24
27	3	.01	10	.44	3	.03	7	.25	7	.34	6	.26
28	56	.36	5	.19	3	.03	5	.14	5	.26	3	.11
29	26	.15	3	.09	7	.06	7	.15	---	---	2	.06
30	3	.01	3	.06	9	.10	3	.05	---	---	1	.04
31	3	.01	---	---	13	.21	40	.69	---	---	2	.06
TOTAL	---	0.92	---	47.38	---	2.92	---	5.42	---	118.80	---	9.32
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3	.08	6	.29	828	342	32	.28	6	.02	9	.00
2	3	.07	5	.20	147	62	10	.05	5	.00	10	.00
3	4	.08	3	.11	34	5.3	3	.01	5	.00	37	.04
4	5	.10	2	.05	448	254	4	.02	7	.01	27	.15
5	15	.85	1	.02	350	260	5	.02	8	.01	12	.01
6	17	1.0	2	.04	117	71	4	.06	10	.04	12	.00
7	17	.92	1	.02	27	14	6	.04	8	.01	7	.00
8	16	.78	3	.05	16	4.5	3	.02	6	.01	10	.04
9	14	.72	2	.03	17	3.0	3	.01	6	.00	7	.01
10	50	3.7	3	.03	27	4.0	4	.01	4	.00	7	.00
11	68	5.5	5	.05	6	.73	3	.01	7	.00	12	.00
12	70	6.0	11	.12	6	.55	5	.01	8	.01	8	.00
13	83	11	10	.10	7	.53	4	.01	8	.00	6	.00
14	136	25	34	.43	6	.37	5	.01	7	.00	35	.55
15	73	13	43	2.4	6	.19	7	.02	7	.00	250	31
16	50	6.2	6	.21	7	.14	5	.01	5	.00	382	9.3
17	252	239	7	.15	5	.04	5	.01	5	.00	113	.82
18	236	244	26	.62	5	.06	3	.00	6	.00	15	.06
19	55	13	382	46	5	.05	3	.00	5	.00	7	.03
20	61	16	594	59	25	.39	4	.00	4	.00	7	.02
21	16	3.0	11	.59	6	.06	3	.00	4	.00	8	.01
22	15	2.1	8	.28	4	.04	3	.00	5	.00	8	.01
23	12	1.3	5	.14	4	.03	5	.00	6	.00	5	.00
24	13	1.1	3	.06	4	.03	5	.00	5	.00	6	.00
25	7	.45	3	.06	4	.02	3	.00	5	.00	6	.00
26	5	.26	2	.03	5	.03	5	.00	8	.00	5	.00
27	4	.16	1	.02	7	.04	5	.00	7	.00	4	.00
28	5	.16	2	.04	5	.02	54	1.6	7	.00	5	.00
29	6	.19	3	.08	5	.02	17	.22	7	.00	6	.00
30	5	.19	21	.51	24	.24	5	.03	7	.00	3	.00
31	---	---	861	49	---	---	5	.02	4	.00	---	---
TOTAL	---	595.91	---	160.73	---	1023.42	---	2.47	---	0.11	---	42.04
TOTAL LOAD FOR YEAR:			2009.45		TONS.							

KANAWHA RIVER BASIN

03199320 ROCK CREEK AT ROCK CREEK, WV

WATER-QUALITY RECORDS

LOCATION.--Lat 38°06'05", long 81°50'26", Hydrologic Unit 05050009, at State Highway 3 bridge at Rock Creek, 0.3 mi (0.5 km) downstream from Low Gap Branch, 1.5 mi (2.4 km) north of Danville, and at mile 0.5 (0.8 km).

DRAINAGE AREA.--13.3 mi² (34.5 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1979 to current year.

WATER TEMPERATURES: May 1979 to current year.

SUSPENDED-SEDIMENT DISCHARGE: May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 430 micromhos Aug. 30, 1981; minimum daily, 65 micromhos May 28, 1979.

WATER TEMPERATURE: Maximum daily, 28.0°C July 7, 8, 1980; minimum daily, 0.0°C several days in 1981.

SEDIMENT CONCENTRATIONS: Maximum daily, 1,530 mg/L June 1, 1981; minimum daily, 0 mg/L Feb. 9, 1980.

SEDIMENT LOADS: Maximum daily, 533 tons (484 metric tons) July 15, 1979; minimum daily, 0 ton (0 metric tons) Feb. 9, 1980, several days in 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 430 micromhos Aug. 30; minimum daily, 77 micromhos May 31.

WATER TEMPERATURES: Maximum daily, 27.0°C several days in July and August; minimum daily, 0.0°C several days in December and January.

SEDIMENT CONCENTRATIONS: Maximum daily, 1,530 mg/L June 1; minimum daily, 1 mg/L Dec. 16, Mar. 30.

SEDIMENT LOADS: Maximum daily, 470 tons (426 metric tons) June 1; minimum daily, 0 ton (0 metric ton) several days during the year.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	234	140	138	112	125	130	122	82	206	283	420
2	255	234	140	144	110	140	132	124	106	187	283	421
3	259	234	165	145	114	125	131	138	109	189	281	420
4	258	232	133	145	113	120	131	137	86	189	283	310
5	261	248	144	144	114	111	120	138	93	187	279	310
6	261	247	146	132	122	110	118	139	98	186	280	300
7	259	257	144	142	139	109	119	155	124	185	279	295
8	265	261	146	144	139	110	119	154	121	214	280	300
9	270	260	189	161	---	121	119	155	134	212	279	298
10	270	259	126	160	---	160	112	153	142	241	280	298
11	279	268	124	152	---	172	110	155	155	245	289	355
12	280	263	163	150	---	123	110	130	155	238	283	352
13	280	265	164	151	---	134	111	130	155	240	283	358
14	284	273	161	151	---	163	101	130	156	258	289	358
15	289	263	136	159	---	136	102	130	157	259	367	217
16	293	262	163	166	---	120	100	163	155	259	369	172
17	300	272	138	158	129	174	89	140	157	257	367	160
18	286	153	---	166	130	119	104	139	183	273	355	288
19	302	151	165	158	129	125	104	104	186	271	370	290
20	300	160	165	219	120	134	110	104	180	272	365	287
21	303	166	168	219	104	136	108	137	205	272	365	287
22	313	97	167	146	120	136	112	137	157	291	360	309
23	---	98	158	126	108	117	113	137	157	288	367	309
24	252	98	163	125	135	122	114	136	158	291	365	---
25	246	127	156	125	130	120	122	136	159	290	420	341
26	254	127	158	125	125	120	122	136	159	293	420	345
27	257	128	157	124	125	122	122	140	220	291	420	308
28	242	142	145	128	115	124	122	150	159	279	420	340
29	249	142	166	127	---	124	122	150	230	281	420	362
30	211	144	166	130	---	123	124	150	230	282	430	340
31	219	---	138	---	---	123	---	77	---	---	418	---
MEAN	268	202	153	149	122	129	115	136	152	248	340	316
WTR YR 1981	MEAN	196	MAX	430	MIN	77						

KANAWHA RIVER BASIN

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03199320 ROCK CREEK AT ROCK CREEK, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.5	9.0	8.5	3.0	5.0	3.0	17.0	12.0	18.0	23.0	24.0	25.0
2	14.0	6.0	9.0	2.0	4.0	4.0	15.0	13.0	18.0	23.0	25.0	25.0
3	14.0	11.0	5.0	1.0	3.5	5.0	16.0	13.0	19.0	24.0	25.0	26.0
4	15.0	13.0	4.0	.0	3.0	7.0	16.0	15.0	19.5	24.0	25.0	23.0
5	15.0	11.0	7.0	.0	2.0	7.0	17.0	15.0	22.0	25.0	25.0	21.0
6	15.0	9.0	8.0	.0	3.0	7.0	16.0	14.0	21.0	25.0	26.0	24.0
7	13.0	12.0	9.0	.0	3.0	6.0	15.0	14.0	22.0	24.0	26.0	24.0
8	14.0	12.0	10.0	.0	1.0	5.0	14.0	15.0	23.0	25.0	27.0	22.0
9	16.0	12.0	8.0	.0	2.0	6.0	12.0	14.0	23.0	27.0	27.0	20.0
10	18.0	11.0	7.0	.0	3.0	7.0	16.0	12.0	23.0	25.0	26.0	20.0
11	13.0	11.0	5.0	.0	1.0	9.0	16.0	10.0	20.0	26.0	26.0	24.0
12	12.0	9.0	7.0	.0	1.0	11.0	17.0	11.0	19.0	26.0	25.0	23.0
13	11.0	8.0	8.0	1.0	1.0	9.0	17.0	12.0	20.0	27.0	26.0	22.0
14	11.0	7.0	7.0	1.0	3.0	7.0	15.0	13.0	24.0	23.0	26.0	---
15	12.0	8.0	6.0	1.0	4.0	7.0	15.0	13.0	25.0	24.0	26.0	19.0
16	13.0	7.0	5.0	1.0	6.0	5.0	13.0	13.0	26.0	25.0	27.0	19.0
17	14.0	7.0	7.0	.0	7.0	4.0	12.0	13.0	24.0	25.0	27.0	20.0
18	11.0	7.0	---	.0	9.0	3.0	12.0	14.0	24.0	25.0	26.0	21.0
19	12.0	7.0	6.0	1.0	8.0	4.0	12.0	12.0	25.0	25.0	27.0	21.0
20	11.0	6.0	4.0	1.0	8.0	5.0	12.0	13.0	25.0	26.0	27.0	20.0
21	11.0	4.0	2.0	1.0	8.0	7.0	12.0	14.0	25.0	25.0	26.0	20.0
22	11.0	6.0	.0	2.0	8.0	8.0	13.0	14.0	25.0	25.0	25.0	18.0
23	---	8.0	2.0	3.0	8.0	10.0	13.0	15.0	25.0	24.0	25.0	15.0
24	11.0	10.0	.0	2.0	6.0	10.0	10.0	17.0	26.0	24.0	25.0	---
25	10.0	9.0	.0	3.0	5.0	7.0	10.0	18.0	26.0	26.0	26.0	18.0
26	10.0	8.0	.0	3.0	4.0	9.0	11.0	19.0	26.0	25.0	26.0	18.0
27	11.0	7.0	.0	3.0	4.0	10.0	13.0	18.0	25.0	26.0	26.0	17.0
28	13.0	5.0	2.0	4.0	4.0	12.0	15.0	19.0	24.0	25.0	27.0	17.0
29	13.0	6.0	2.0	3.5	---	14.0	17.0	18.0	23.0	26.0	27.0	16.0
30	11.0	8.0	2.0	5.0	---	16.0	13.0	20.0	23.0	26.0	27.0	17.0
31	9.0	---	2.0	---	---	17.0	---	19.0	---	---	26.0	---
MEAN	12.5	8.5	5.0	1.5	4.5	8.0	14.0	14.5	23.0	25.0	26.0	20.5
WTR YR 1981	MEAN	13.5		MAX	27.0		MIN	.0				

KANAWHA RIVER BASIN

03199320 ROCK CREEK AT ROCK CREEK, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	7	.03	3	.01	3	.05	11	.33	95	2.3	6	.80
2	6	.03	3	.01	38	.82	7	.25	246	62	8	.89
3	6	.04	2	.00	13	.31	6	.21	14	2.2	10	.81
4	5	.03	5	.02	27	.64	9	.24	15	1.1	27	1.6
5	5	.02	4	.02	4	.10	11	.23	20	.92	11	.92
6	4	.02	4	.01	5	.10	7	.16	12	.39	5	.47
7	4	.02	4	.01	5	.08	6	.13	11	.26	5	.42
8	5	.01	4	.02	4	.06	6	.11	15	.31	4	.25
9	5	.01	3	.01	4	.10	3	.04	16	.29	4	.19
10	5	.01	2	.01	5	.20	5	.06	10	.17	3	.11
11	4	.01	2	.01	4	.16	5	.06	32	.86	4	.12
12	4	.01	3	.01	3	.11	6	.07	37	1.4	7	.17
13	5	.01	2	.01	2	.06	5	.05	37	1.3	36	.70
14	4	.01	3	.01	3	.06	5	.04	14	.45	39	.62
15	5	.01	6	.02	4	.07	5	.04	6	.18	40	.57
16	4	.01	7	.03	1	.02	5	.04	5	.15	12	.31
17	7	.02	36	.29	2	.03	3	.02	5	.19	3	.07
18	7	.03	34	2.1	3	.03	4	.02	6	.24	3	.08
19	6	.03	11	.14	3	.03	4	.02	13	.56	3	.08
20	5	.02	6	.05	2	.02	11	.07	57	4.3	5	.13
21	5	.02	4	.02	2	.02	13	.21	125	9.8	5	.12
22	5	.02	5	.03	28	.22	14	.57	130	8.8	5	.13
23	6	.02	4	.02	7	.05	12	.65	165	30	6	.19
24	11	.04	199	37	16	.18	11	.50	44	7.2	5	.20
25	26	.32	31	3.0	7	.08	11	.45	7	.74	4	.19
26	5	.03	15	.85	6	.06	10	.38	8	.56	6	.24
27	4	.02	10	.43	5	.04	7	.25	7	.34	6	.26
28	56	.36	4	.15	5	.04	7	.19	7	.36	3	.11
29	46	.27	3	.09	22	.18	12	.26	---	---	2	.06
30	3	.01	3	.06	12	.13	4	.06	---	---	1	.04
31	3	.01	---	---	13	.21	40	.69	---	---	5	.15
TOTAL	---	1.50	---	44.44	---	4.26	---	6.40	---	137.37	---	11.00
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	10	.26	7	.34	1530	470	43	.37	6	.02	9	.01
2	7	.17	6	.24	270	90	10	.05	5	.01	10	.01
3	4	.08	3	.11	55	8.6	8	.03	5	.01	26	.03
4	5	.10	5	.13	454	257	8	.03	7	.01	37	.20
5	15	.85	7	.17	350	260	5	.02	8	.01	10	.01
6	17	1.0	5	.11	121	74	4	.06	8	.03	7	.01
7	17	.92	4	.08	30	16	6	.04	8	.01	10	.01
8	16	.78	3	.05	18	5.1	7	.04	24	.04	14	.06
9	14	.72	2	.03	17	3.0	7	.03	6	.01	10	.02
10	63	3.7	7	.09	25	3.7	7	.02	4	.00	11	.01
11	67	5.4	5	.05	6	.73	7	.02	7	.01	12	.01
12	62	4.6	13	.14	6	.55	5	.01	10	.02	17	.01
13	103	13	10	.10	7	.53	4	.01	8	.01	16	.01
14	159	23	24	.30	6	.37	5	.01	10	.01	41	.64
15	73	13	48	2.7	6	.19	7	.02	6	.00	332	39
16	45	5.6	6	.21	7	.14	5	.01	5	.01	409	9.9
17	209	90	7	.15	5	.08	5	.01	6	.01	146	1.1
18	420	279	36	.86	7	.09	3	.01	7	.01	19	.08
19	57	13	382	46	7	.08	3	.01	5	.00	8	.03
20	74	20	594	59	23	.36	4	.01	4	.00	10	.03
21	16	3.0	28	1.5	6	.06	3	.00	4	.00	10	.02
22	17	2.4	6	.21	4	.04	3	.01	6	.00	10	.02
23	16	1.7	10	.27	4	.03	5	.01	6	.00	10	.01
24	17	1.5	12	.26	4	.03	5	.01	5	.00	9	.01
25	8	.52	8	.15	4	.02	3	.00	4	.00	8	.01
26	5	.26	2	.03	5	.03	5	.01	8	.00	10	.01
27	7	.28	4	.08	7	.04	5	.01	7	.00	8	.01
28	5	.16	4	.09	7	.03	56	1.7	6	.00	7	.01
29	7	.23	3	.08	6	.03	23	.30	7	.00	6	.01
30	8	.30	29	.70	21	.21	5	.03	7	.00	3	.00
31	---	---	1040	59	---	---	5	.02	8	.01	---	---
TOTAL	---	485.53	---	173.22	---	1191.04	---	2.91	---	0.24	---	51.29
TOTAL LOAD FOR YEAR:		2109.20		TONS.								

KANAWHA RIVER BASIN

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03199400 LITTLE COAL RIVER AT JULIAN, WV

LOCATION.--Lat 38°09'17", long 81°51'10", Boone County, Hydrologic Unit 05050009, on left bank on downstream side of highway bridge on State Route 3 at Julian, 5.6 mi (9.0 km) north of intersection of U.S. Highway 119 and State Route 3, and at mile 17.4 (28.0 km).

DRAINAGE AREA.--319 mi² (826 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 634.13 ft (193.283 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 21, 1976, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for June, which are fair, and those for December, January, February, and period of no gage-height record July 28 to Sept. 8, which are poor.

AVERAGE DISCHARGE.--7 years, 551 ft³/s (15.60 m³/s), 23.46 in/yr (596 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,900 ft³/s (535 m³/s) Dec. 9, 1978, gage height, 28.86 ft (8.797 m), from rating curve extended above 1,300 ft³/s (37 m³/s); minimum daily, 16 ft³/s (0.45 m³/s) July 20, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,700 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 18	0400	4930 140	12.90 3.932	June 7	0700	*6410 182	15.01 4.575
June 5	----	a5890 167	a14.27 4.349				

a Estimated.

Minimum daily discharge, 32 ft³/s (0.91 m³/s) Sept. 29-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	53	165	180	204	1080	357	397	1460	134	74	35
2	69	51	165	216	1600	1220	452	385	3290	132	70	35
3	71	51	210	216	1300	948	427	345	1670	112	70	52
4	72	51	200	180	800	675	397	315	2050	110	64	96
5	72	50	184	120	520	940	523	290	4340	123	58	70
6	62	49	182	130	400	1320	696	274	2700	349	170	52
7	55	48	163	140	320	1180	664	264	5020	371	130	45
8	51	42	147	120	280	880	568	236	2190	220	100	54
9	48	42	157	100	250	661	514	216	1280	166	86	75
10	46	42	232	84	230	541	1090	196	828	145	70	52
11	43	43	234	72	300	469	1160	194	1100	214	62	38
12	45	37	224	78	400	415	920	202	717	170	70	38
13	44	36	210	82	430	377	864	182	682	139	66	38
14	43	36	184	78	400	347	755	166	710	145	58	48
15	42	39	165	68	370	315	888	317	634	152	54	156
16	41	41	161	64	415	350	689	264	417	123	80	178
17	39	51	152	58	435	460	1980	220	373	113	70	99
18	45	252	131	49	517	447	3600	202	312	107	50	69
19	48	196	110	44	553	445	1830	637	270	99	45	59
20	45	138	92	45	752	430	1580	2540	258	96	42	59
21	43	112	76	80	848	397	1240	1480	238	88	40	49
22	39	94	84	120	755	380	996	844	220	96	41	38
23	38	84	100	190	1350	407	792	547	200	84	41	35
24	36	557	110	250	2080	508	800	410	174	76	40	34
25	62	586	110	296	1330	556	689	330	159	75	39	34
26	134	330	92	288	900	532	571	282	166	71	37	33
27	82	264	84	315	647	496	484	254	143	76	36	33
28	78	240	80	337	556	455	425	290	139	100	38	33
29	91	216	110	294	---	417	390	397	131	130	36	32
30	69	192	130	244	---	400	410	390	126	100	38	32
31	61	---	160	196	---	390	---	943	---	76	44	---
TOTAL	1786	4023	4604	4734	18942	18438	26751	14009	31997	4192	1919	1701
MEAN	57.6	134	149	153	677	595	892	452	1067	135	61.9	56.7
MAX	134	586	234	337	2080	1320	3600	2540	5020	371	170	178
MIN	36	36	76	44	204	315	357	166	126	71	36	32
CFSM	.18	.42	.47	.48	2.12	1.87	2.80	1.42	3.35	.42	.19	.18
IN.	.21	.47	.54	.55	2.21	2.15	3.12	1.63	3.73	.49	.22	.20
CAL YR 1980	TOTAL	183980	MEAN 503	MAX 5470	MIN 36	CFSM 1.58	IN 21.45					
WTR YR 1981	TOTAL	133096	MEAN 365	MAX 5020	MIN 32	CFSM 1.14	IN 15.52					

KANAWHA RIVER BASIN

03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: February 1975 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,270 micromhos Oct. 24, 1980; minimum daily, 65 micromhos Dec. 9, 1978.

WATER TEMPERATURES: Maximum daily, 33.0°C July 18, 1977; minimum daily, -1.0°C Jan. 17, 22, Dec. 31, 1976, Jan. 1, 10, 1977.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,100 mg/L Jan. 26, 1978; minimum daily mean, 0 mg/L several days in 1975, 1977, 1979, 1981.

SEDIMENT LOADS: Maximum daily, 123,000 tons (112,000 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) several days in 1975, 1977, 1979, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily recorded, 1,270 micromhos Oct. 24; minimum daily, 156 micromhos June 5, 7.

WATER TEMPERATURES: Maximum daily recorded, 29.0°C July 9; minimum daily, 0.0°C Jan. 4.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 719 mg/L June 7; minimum daily mean, 0 mg/L several days in August and September.

SEDIMENT LOADS: Maximum daily, 10,300 tons (9,340 metric tons) June 7; minimum daily, 0 ton (0 metric ton) several days in August and September.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CaCO3)
OCT						
01...	1355	71	830	8.3	21.0	--
08...	1300	48	960	7.8	13.5	--
24...	1515	86	790	7.7	11.0	--
NOV						
24...	1420	791	290	7.0	8.5	--
DEC						
02...	1555	161	430	7.5	8.0	--
JAN						
29...	1130	292	240	7.8	4.5	--
MAR						
03...	1230	920	250	6.7	6.0	--
04...	1230	675	320	7.4	5.5	--
31...	1630	303	380	8.0	17.0	--
APR						
01...	0845	360	300	6.6	13.5	--
MAY						
04...	0950	574	420	7.9	13.5	--
27...	0900	253	440	7.2	--	--
JUL						
20...	1445	82	885	7.6	27.5	180
28...	1600	91	800	7.3	28.0	--

KANAWHA RIVER BASIN

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03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LILITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 08...	--	--	--	--	110	--	--	--
JUL 20...	41	19	100	3.2	111	260	12	570

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 08...	--	--	--	--	--	--	--	--
JUL 20...	.78	127	670	660	10	80	30	50

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	862	940	451	429	428	---	395	418	231	784	845	---
2	---	1020	452	419	208	---	---	405	191	840	---	---
3	890	1080	501	401	---	255	---	422	---	752	1040	---
4	---	1010	473	413	---	310	370	420	---	---	---	---
5	880	---	490	---	258	292	358	450	156	515	1020	---
6	920	1080	490	---	290	238	309	470	198	578	1000	---
7	910	1060	484	---	325	238	300	500	156	426	---	---
8	911	1080	528	---	---	274	310	530	237	---	704	940
9	960	1080	528	---	358	305	329	470	312	617	---	---
10	980	1100	445	---	381	340	245	560	320	---	852	---
11	1000	1080	---	---	380	368	---	590	296	635	910	---
12	1020	1080	486	---	270	---	254	600	342	---	---	---
13	1060	1100	405	---	260	415	---	595	363	658	---	---
14	1040	1080	424	---	280	430	291	---	338	690	---	---
15	1050	1100	---	---	---	---	269	555	379	---	---	600
16	1060	1060	466	---	320	445	295	430	439	659	---	---
17	1080	1160	501	---	330	378	224	510	431	760	---	---
18	1060	---	512	---	310	380	159	530	460	795	---	---
19	---	---	539	---	240	375	---	459	520	790	---	---
20	1100	---	591	---	---	378	226	176	---	867	---	1140
21	1220	530	---	---	200	390	248	210	540	873	---	925
22	1250	590	410	---	---	---	274	248	515	772	---	1060
23	1210	618	---	---	246	390	300	300	535	---	---	980
24	1270	332	682	350	180	345	303	351	627	---	---	1080
25	1160	319	---	335	220	318	310	445	---	---	---	1080
26	---	362	---	340	---	320	340	460	600	---	---	---
27	880	352	---	345	290	---	358	445	640	---	---	1120
28	836	385	---	326	310	342	---	480	640	840	---	---
29	762	397	600	284	---	---	410	388	700	752	---	1160
30	860	427	---	361	---	---	405	361	700	740	---	1160
31	925	---	523	400	---	380	---	237	---	800	---	---
MEAN	1010	824	499	367	290	344	303	434	418	721	910	1020
WTR YR 1981	MEAN	568		MAX	1270		MIN	156				

KANAWHA RIVER BASIN

03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	11.0	8.0	4.0	4.0	---	---	16.0	18.0	24.5	26.0	---
2	20.0	9.5	8.5	3.5	4.0	---	---	16.5	18.5	24.0	---	---
3	16.5	11.5	6.0	2.5	---	7.0	---	17.0	---	24.5	26.0	---
4	---	13.0	5.0	.0	---	5.5	16.0	13.5	---	---	---	---
5	13.0	---	6.0	---	---	8.0	15.0	20.0	18.0	27.0	28.0	---
6	14.0	9.5	9.5	---	2.5	7.0	13.5	17.0	17.0	24.0	25.5	---
7	15.5	12.0	11.5	---	4.5	9.5	14.0	17.5	17.5	26.0	---	---
8	17.0	15.0	11.5	---	---	6.0	15.5	19.5	18.5	---	25.0	---
9	19.0	15.0	12.0	---	3.5	7.5	16.0	18.5	20.5	29.0	---	---
10	21.0	11.0	10.0	---	5.5	8.5	13.0	21.0	10.0	---	26.0	---
11	18.0	9.0	---	---	7.0	8.5	---	11.5	21.0	21.5	26.5	---
12	14.0	7.0	7.0	---	5.0	---	18.0	15.0	21.0	---	---	---
13	13.0	9.0	7.0	---	1.5	10.0	---	18.5	21.5	27.5	---	---
14	14.5	9.5	5.0	---	4.5	8.0	16.5	---	23.0	27.0	---	---
15	15.0	9.0	---	---	---	---	16.0	17.0	25.0	---	---	---
16	16.5	8.0	---	---	7.5	7.0	15.0	16.5	25.0	26.0	---	---
17	17.0	10.0	---	---	9.0	6.0	14.0	19.0	23.0	27.0	---	---
18	17.5	7.0	---	---	11.0	6.0	16.0	16.0	24.0	27.0	---	---
19	---	7.0	4.5	---	11.0	5.0	---	---	25.0	28.0	---	---
20	14.5	6.0	1.5	---	---	4.5	14.0	14.0	---	27.5	---	19.0
21	15.0	6.0	---	---	9.5	6.0	13.0	16.0	24.0	26.0	---	19.0
22	15.0	5.0	---	---	---	---	15.0	18.0	25.0	25.5	---	18.0
23	14.5	6.0	---	---	10.5	8.5	15.5	19.5	25.5	---	---	17.0
24	15.0	9.0	2.0	5.5	7.5	10.0	11.5	21.0	26.0	---	---	18.0
25	11.5	---	---	6.5	8.5	11.0	11.5	---	---	---	---	19.0
26	---	7.0	---	8.5	---	11.0	14.0	21.5	24.5	---	---	---
27	10.0	7.5	---	8.5	10.0	---	18.0	14.0	25.0	---	---	20.0
28	12.0	7.0	---	6.5	10.5	12.0	---	14.5	25.0	---	---	---
29	11.0	6.0	---	4.5	---	---	20.0	19.0	25.5	23.0	---	20.0
30	10.0	7.0	3.0	3.0	---	---	18.5	20.5	27.5	24.0	---	21.0
31	10.0	---	3.5	3.5	---	17.0	---	17.0	---	22.0	---	---
MEAN	15.0	9.0	7.0	4.5	7.0	8.0	15.0	17.5	22.0	25.5	26.0	19.0
WTR YR 1981	MEAN	14.5		MAX	29.0	MIN	.0					

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

TOTAL LOAD FOR YEAR: 81510.40 TONS.

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV

LOCATION.--Lat 38°20'20", long 81°50'30", Kanawha County, Hydrologic Unit 05050009, on downstream side of highway bridge at Tornado, 0.2 mi (0.3 km) upstream from Falls Creek, and at mile 11.5 (18.5 km).

DRAINAGE AREA.--861 mi² (2,230 km²), includes that of Falls Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1908 to September 1911, October 1911 to June 1912 (gage heights only), November 1928 to September 1931, August 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 570.46 ft (173.876 m) National Geodetic Vertical Datum of 1929. Aug. 1, 1971, to Jan. 9, 1973, nonrecording gage at same site and datum. Prior to Aug. 1, 1961, nonrecording gage at same site at different datum.

REMARKS.--Water-discharge records good except those for November, December, January, and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--25 years (water years 1909-11, 1930-31, 1962-81), 1,252 ft³/s (35.46 m³/s), 19.75 in/yr (502 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,500 ft³/s (1,010 m³/s) Mar. 7, 1967, gage height, 31.98 ft (9.748 m); minimum (estimated), 2.0 ft³/s (0.057 m³/s) Oct. 1-10, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,200 ft³/s (430 m³/s) June 5, gage height, 18.58 ft (5.663 m), no peak above base of 16,000 ft³/s (450 m³/s); minimum discharge, 45 ft³/s (1.27 m³/s) Sept. 30; minimum gage height, 10.13 ft (3.088 m) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	189	523	602	592	2350	1020	1310	2800	372	168	68
2	150	169	480	683	3090	2940	1180	1190	5830	453	145	71
3	150	160	569	689	4280	2540	1280	1070	4910	357	135	68
4	162	150	584	450	2500	2000	1150	957	5080	330	127	91
5	169	150	553	310	1700	2220	1460	853	12500	312	118	144
6	162	140	523	350	1200	3370	1930	786	6320	620	190	115
7	138	130	480	400	920	3060	1920	809	9860	1010	322	91
8	121	120	427	380	800	2400	1650	691	6010	734	297	95
9	115	120	538	350	720	1880	1440	609	3230	482	222	132
10	112	130	686	300	660	1530	1670	541	2330	469	175	132
11	110	120	717	260	800	1300	2090	510	2230	876	160	91
12	110	110	686	230	1100	1130	1890	553	1820	620	140	71
13	105	100	657	260	1300	1000	2720	533	1750	403	140	59
14	95	110	569	280	1400	900	2240	454	1860	333	120	56
15	176	150	480	290	1200	791	2560	652	1440	487	100	210
16	189	169	467	240	1140	811	2360	931	1100	443	110	480
17	189	249	440	210	1230	1170	2740	747	919	301	156	258
18	203	845	377	180	1440	1250	7520	629	850	265	132	169
19	210	812	342	170	1570	1270	4630	1410	710	233	95	132
20	210	553	300	160	1980	1200	3670	4700	679	207	86	121
21	189	401	190	230	2450	1120	3350	4340	650	193	79	110
22	126	331	180	350	2400	1030	2720	2620	579	198	79	95
23	100	284	220	500	3010	1080	2220	1720	509	197	75	71
24	91	1060	293	700	4510	1210	2120	1220	441	163	75	65
25	162	2070	260	1000	3500	1410	1990	925	386	147	75	59
26	302	1300	220	920	2550	1520	1680	783	359	141	75	53
27	342	968	230	987	1950	1450	1430	684	387	134	68	50
28	266	845	280	1150	1610	1370	1220	724	336	202	68	50
29	302	732	350	1010	---	1190	1140	977	290	514	68	48
30	258	628	450	805	---	1130	1250	1110	269	309	68	48
31	210	---	377	639	---	1150	---	1580	---	218	68	---
TOTAL	5374	13295	13448	15085	51602	48772	66240	36618	76434	11723	3936	3303
MEAN	173	443	434	487	1843	1573	2208	1181	2548	378	127	110
MAX	342	2070	717	1150	4510	3370	7520	4700	12500	1010	322	480
MIN	91	100	180	160	592	791	1020	454	269	134	68	48
CFSM	.20	.52	.50	.57	2.14	1.83	2.56	1.37	2.96	.44	.15	.13
IN.	.23	.57	.58	.65	2.23	2.11	2.86	1.58	3.30	.51	.17	.14
CAL YR 1980	TOTAL	428050	MEAN	1170	MAX	12100	MIN	91	CFSM	1.36	IN	18.49
WTR YR 1981	TOTAL	345830	MEAN	947	MAX	12500	MIN	48	CFSM	1.10	IN	14.94

KANAWHA RIVER BASIN

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03200500 COAL RIVER AT TORNADO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to current year.

TEMPERATURE: May to July 1975 (partial-record station), June to September 1976 (published as once-daily), October 1976 to current year.

TURBIDITY: October 1980 to September 1981.

SUSPENDED-SEDIMENT DISCHARGE: December 1972 to current year.

INSTRUMENTATION.--Temperature recorder since Nov. 13, 1973.

REMARKS.--Interruptions in water-temperature record due to instrument malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 micromhos Oct. 23, 24, 1973; minimum daily, 88 micromhos Dec. 9, 1978, June 22, 1979.

WATER TEMPERATURES: Maximum recorded, 31.5°C July 8, 19, 20, 1977; minimum recorded, -0.5°C Dec. 31, 1980, Jan. 1, 2, 1981.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,000 mg/L Mar. 17, 1973; minimum daily mean, 0 mg/L on several days in April 1978, Feb. 5, Mar. 21, 22, 1979.

SEDIMENT LOADS: Maximum daily, 263,000 tons (239,000 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) on several days in April 1978, Feb. 5, Mar. 21, 22, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 925 micromhos Sept. 2; minimum daily, 135 micromhos June 5.

TEMPERATURE: Maximum, 29.5°C July 27; minimum, -0.5°C Dec. 31, Jan. 1, 2.

TURBIDITY: Maximum daily, 150 NTU June 5; minimum daily, 1.2 NTU Sept. 6.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,090 mg/L Apr. 18; minimum daily mean, 2 mg/L Jan. 18-20.

SEDIMENT LOADS: Maximum daily, 31,800 tons (28,800 metric tons) June 5; minimum daily, 0.86 ton (0.78 metric ton) Jan. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT												
01...	1130	150	540	8.1	18.0	--	--	--	--	--	--	--
10...	1140	113	690	6.9	17.0	160	96	.0	34	18	72	49
29...	1705	312	650	7.7	11.5	--	--	--	--	--	--	--
DEC												
05...	1120	568	330	7.7	6.0	--	--	--	--	--	--	--
16...	1240	464	300	7.0	4.0	89	63	.0	--	--	--	--
30...	1640	427	420	7.8	3.0	--	--	--	--	--	--	--
JAN												
06...	1120	280	310	6.9	.5	84	57	.0	18	9.5	22	--
FEB												
06...	1815	1300	260	7.5	1.0	--	--	--	--	--	--	--
MAR												
04...	1340	1930	225	6.3	5.0	69	56	<.1	14	8.3	11	--
31...	1455	1160	280	7.8	16.0	--	--	--	--	--	--	--
APR												
02...	1215	1210	345	7.1	13.0	--	--	--	--	--	--	--
03...	0950	1280	320	6.7	13.0	98	73	<.1	21	11	18	--
MAY												
06...	1635	702	300	7.8	17.0	--	--	--	--	--	--	--
JUL												
20...	1200	203	537	7.5	29.0	140	--	--	30	15	45	--

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, DIS- SOLVED (MG/L AS N)
OCT 10...	2.5	4.4	78	210	14	.0	2.7	430	394	.58	131	--
DEC 16...	1.1	--	32	--	--	--	--	--	--	--	--	.56
JAN 06...	1.0	--	33	86	8.4	--	--	184	--	.25	139	--
MAR 04...	.6	--	16	60	5.1	--	7.3	128	118	.17	667	--
APR 03...	.9	--	31	96	6.1	--	6.4	191	177	.26	660	.61
JUL 20...	1.7	--	59	150	9.7	--	--	327	--	.44	179	--
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 16...	2.5	.000	.00	.56	.030	.000	.00	--	--	--	--	--
JAN 06...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 04...	--	<.010	--	.84	.500	<.010	--	50	<1	6	<3	14
APR 03...	2.7	.010	.03	.62	.040	<.010	--	60	<1	2	<3	<10
JUL 20...	--	--	--	--	--	--	--	--	--	--	--	--
DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 10...	340	290	50	--	--	80	20	60	--	--	--	--
DEC 16...	--	410	--	--	--	--	0	--	--	--	--	--
JAN 06...	390	310	80	--	--	140	10	130	--	--	--	--
MAR 04...	1000	960	44	<10	6	70	30	37	<10	200	<6.0	69
APR 03...	890	860	31	<10	15	90	10	79	<10	340	<6.0	73
JUL 20...	650	640	10	--	--	80	20	60	--	--	--	--

03200500 COAL RIVER AT TORNADO, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	559	518	296	---	190	---	291	322	170	590	572	870
2	595	574	308	330	214	---	285	310	165	600	605	925
3	618	---	---	---	165	---	270	325	165	590	605	880
4	611	658	340	---	203	224	262	317	170	440	630	880
5	---	663	334	---	228	210	272	360	135	440	700	880
6	621	706	319	---	248	210	263	345	165	460	700	870
7	627	711	334	---	232	195	228	340	145	435	660	840
8	628	727	338	---	288	235	228	320	172	425	670	755
9	640	710	330	---	283	240	228	410	---	430	580	759
10	667	748	---	---	300	280	229	410	---	450	575	752
11	640	735	310	---	297	263	230	400	---	430	590	769
12	645	740	310	---	305	325	225	425	290	425	600	760
13	681	758	295	---	260	---	206	430	305	440	650	760
14	640	748	299	---	---	310	210	300	295	475	650	570
15	718	748	312	---	285	331	---	350	320	475	650	565
16	---	752	312	---	275	330	185	350	370	475	690	561
17	677	488	304	---	275	297	190	356	380	460	680	576
18	670	479	322	---	273	289	195	350	430	450	720	574
19	488	435	334	---	215	285	190	309	430	485	730	600
20	492	407	362	---	200	290	190	168	485	550	730	595
21	498	411	361	---	200	290	200	163	480	550	735	600
22	490	408	420	---	200	290	225	189	---	570	705	702
23	---	408	415	---	203	305	227	---	480	610	695	700
24	681	312	460	---	204	300	270	---	550	620	700	691
25	---	273	---	282	205	265	263	279	555	630	800	700
26	691	258	---	271	205	266	260	315	550	645	800	745
27	685	244	---	268	225	265	275	370	550	---	900	740
28	---	270	---	274	245	265	295	367	575	---	870	595
29	620	298	458	252	---	267	290	365	565	593	860	805
30	600	302	420	254	---	280	295	365	590	574	875	807
31	---	---	408	---	---	285	---	305	---	572	870	---
MEAN	619	534	348	276	238	274	241	332	365	513	703	728
WTR YR 1981	MEAN	446	MAX	925	MIN	135						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	9.0	8.0	5.0	4.0	.0	-0.5	2.0	2.0	7.0	6.5
2	---	---	8.5	8.0	5.0	5.0	.0	-0.5	2.5	2.0	7.0	7.0
3	19.0	18.5	8.5	8.0	5.0	4.0	.0	.0	2.5	2.5	7.0	6.5
4	18.0	16.5	9.0	8.0	4.0	3.0	.0	.0	2.5	2.5	6.5	6.0
5	16.5	15.5	10.0	9.0	3.0	3.0	.0	.0	2.5	2.5	6.0	5.5
6	15.0	13.5	9.5	9.0	4.5	3.0	.0	.0	2.5	2.5	5.5	5.5
7	14.0	13.0	9.0	8.5	6.5	4.5	.5	.0	2.5	2.5	5.5	5.5
8	14.5	13.5	10.5	8.5	7.0	6.5	.5	.0	2.5	2.5	5.5	5.0
9	16.0	14.0	10.5	9.5	8.5	7.0	.5	.5	3.0	2.5	5.0	5.0
10	17.5	15.5	10.5	10.0	8.5	7.5	.5	.5	3.0	3.0	5.5	5.0
11	17.5	17.0	10.0	9.0	7.5	5.5	.5	.5	3.5	3.0	6.0	5.5
12	17.0	16.5	8.5	7.0	5.5	4.0	.5	.5	3.5	3.0	6.5	6.0
13	16.5	14.5	7.0	6.0	4.0	3.5	.5	.5	3.0	3.0	7.0	6.5
14	14.5	13.5	5.5	5.5	3.5	3.0	1.0	.5	3.0	3.0	7.0	7.0
15	13.5	13.0	6.0	5.5	3.0	2.5	1.0	.5	3.5	3.0	7.0	6.5
16	14.0	12.5	6.0	6.0	2.5	2.5	1.0	1.0	4.5	3.5	7.0	7.0
17	14.5	13.0	6.0	6.0	2.5	2.5	1.0	1.0	6.0	4.5	7.0	6.0
18	15.0	14.0	6.0	5.5	2.5	2.0	1.0	1.0	8.0	6.0	6.0	5.5
19	15.5	15.0	5.5	5.0	2.0	2.0	1.0	1.0	8.5	8.0	5.5	5.0
20	15.0	14.5	5.0	4.0	---	---	1.0	1.0	8.5	8.5	5.0	4.5
21	14.0	13.5	4.0	3.5	---	---	1.5	1.0	8.5	8.0	4.5	4.0
22	14.0	13.0	3.5	3.0	---	---	1.5	1.0	8.0	8.0	4.0	4.0
23	14.0	13.0	3.0	3.0	---	---	1.5	1.5	8.0	8.0	5.0	4.0
24	13.0	12.5	6.5	3.0	---	---	1.5	1.5	8.0	8.0	6.0	5.5
25	12.5	11.5	7.0	6.5	---	---	1.5	1.5	8.5	7.0	7.5	6.0
26	11.5	9.5	6.5	5.0	---	---	2.5	1.5	7.0	6.5	7.5	7.5
27	9.5	9.0	5.0	5.0	---	---	4.5	2.5	6.5	6.0	8.0	7.5
28	9.0	8.5	5.5	5.0	---	---	4.5	4.0	6.5	6.0	9.0	8.0
29	9.5	9.0	5.5	4.5	---	---	4.0	3.5	---	---	10.0	9.0
30	9.5	9.0	4.5	4.0	---	---	3.0	2.5	---	---	---	---
31	8.5	8.0	---	---	-0.5	-0.5	2.5	2.0	---	---	---	---
MONTH	19.0	8.0	10.5	3.0	8.5	-0.5	4.5	-0.5	8.5	2.0	10.0	4.0

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1					---	---	25.5	24.0			25.5	24.0
2					---	---	24.0	23.0			26.5	24.0
3					---	---	23.5	23.0			25.5	24.5
4					---	---	24.0	23.5			26.5	24.5
5					---	---	24.0	23.0			26.5	24.5
6					---	---	23.5	23.0			26.0	24.0
7					---	---	24.0	23.0			26.0	24.5
8					---	---	25.0	23.5			25.0	24.0
9					19.5	17.0	26.5	25.0			25.0	22.5
10					19.5	19.0	27.5	27.0			22.5	21.0
11					20.5	19.5	26.5	25.0			23.0	20.5
12					21.0	19.5	26.0	25.0			24.0	21.5
13					21.0	20.5	25.5	25.0			24.5	22.0
14					22.0	20.5	26.5	25.5			24.5	22.5
15					24.0	22.0	26.0	25.0			24.0	22.5
16					25.0	23.5	26.0	25.0			22.5	21.0
17					25.0	24.0	26.0	25.0			21.5	20.0
18					24.0	22.5	26.5	25.0			20.0	19.0
19					24.5	23.0	27.5	25.5			19.0	18.0
20					24.5	23.0	28.0	26.0			18.5	17.5
21					23.5	23.0	28.0	26.5			20.0	17.5
22					24.0	23.0	27.5	25.5			20.0	18.5
23					24.5	23.5	27.5	24.5			19.5	18.5
24					25.0	24.0	27.5	24.0			19.5	17.5
25					25.5	24.5	28.5	25.0			19.5	17.0
26					25.5	24.5	28.0	26.0			19.0	17.5
27					24.5	23.5	25.5	26.5			19.5	18.0
28					24.0	23.0	28.0	26.5			20.0	18.0
29					24.5	23.5	26.5	23.5			20.0	18.0
30					26.0	24.0	---	---			20.0	18.5
31					---	---	---	---			---	---
MONTH					26.0	17.0	25.5	23.0			26.5	17.0

TURBIDITY (NTU), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	7.0	3.8	---	45	---	6.9	6.5	110	6.5	20	6.3
2	9.2	3.7	6.9	8.8	15	---	90	7.8	110	7.6	8.5	3.6
3	10	---	---	---	95	---	15	6.1	50	6.0	9.4	8.9
4	7.8	4.4	8.1	---	7.9	8.7	10	5.4	120	60	10	8.5
5	---	7.3	7.4	---	8.6	65	10	8.0	150	55	10	8.6
6	3.7	6.8	8.8	---	6.2	60	10	7.2	80	60	10	1.2
7	4.5	5.4	4.4	---	5.7	20	8.0	7.5	95	50	35	6.8
8	3.9	4.3	5.5	---	4.7	6.0	8.0	4.1	35	10	60	10
9	3.1	6.5	6.7	---	4.8	6.4	7.0	5.5	---	15	25	9.9
10	5.8	5.7	---	---	35	4.9	8.0	6.0	---	6.6	10	10
11	6.0	7.8	5.6	---	45	5.0	8.0	6.4	---	25	45	6.9
12	5.5	5.3	8.8	---	35	3.3	8.0	4.7	45	25	45	4.9
13	2.8	2.8	3.1	---	3.5	---	40	3.6	75	20	15	4.5
14	2.9	2.3	3.2	---	---	4.5	15	4.4	55	15	15	20
15	3.0	9.9	3.4	---	5.4	2.2	---	7.9	20	20	15	15
16	---	3.6	4.1	---	2.0	6.0	30	6.7	10	20	15	10
17	3.7	40	2.6	---	9.0	8.9	25	7.3	10	20	15	20
18	3.3	50	1.8	---	7.6	7.0	30	7.6	35	25	20	20
19	7.3	25	5.0	---	75	3.4	30	45	30	15	10	9.3
20	4.0	9.5	5.2	---	40	3.3	30	30	30	15	10	4.7
21	4.3	9.0	4.3	---	85	3.2	15	10	15	10	8.0	8.8
22	4.8	9.3	10	---	90	3.2	5.3	15	3.6	15	6.4	4.0
23	---	4.7	15	---	60	5.6	8.5	7.4	5.7	15	5.8	5.2
24	7.9	130	7.5	---	10	6.0	8.4	8.5	3.7	15	6.3	2.3
25	---	35	---	9.5	10	5.6	7.0	---	3.7	10	4.6	4.6
26	8.8	20	---	9.3	7.1	5.2	6.4	---	3.7	---	4.3	3.2
27	6.8	10	---	8.4	9.0	6.2	5.9	2.6	3.5	---	5.8	2.2
28	---	9.6	---	10	3.7	5.5	20	4.8	2.5	---	4.6	2.3
29	20	4.0	10	8.3	---	4.9	20	9.5	3.5	90	5.1	5.6
30	15	2.7	2.8	5.5	---	9.5	25	8.0	5.8	20	2.9	6.2
31	---	---	9.3	---	---	7.5	---	30	---	20	3.8	---
MEAN	6.5	15	6.1	8.5	27	10	18	9.8	40	24	15	7.8

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	21	8.5	12	6.1	5	7.1	22	36	16	26	140	1020				
2	17	6.9	7	3.2	7	9.1	20	37	380	3170	205	1630				
3	22	8.9	5	2.2	26	40	15	28	387	4470	121	830				
4	17	7.5	5	2.0	27	43	11	13	197	1330	32	173				
5	12	5.5	7	2.8	13	19	10	8.4	50	230	94	563				
6	12	5.3	8	3.0	15	21	12	11	20	65	273	2480				
7	8	3.0	7	2.5	12	16	17	18	12	30	75	620				
8	8	2.6	6	1.9	10	12	11	11	7	15	17	110				
9	7	2.2	7	2.3	14	20	11	10	5	9.7	10	51				
10	9	2.7	7	2.5	14	26	10	8.1	44	78	7	29				
11	13	3.9	10	3.2	13	25	9	6.3	65	140	7	25				
12	13	3.9	8	2.4	13	24	7	4.3	64	190	3	9.2				
13	7	2.0	4	1.1	10	18	5	3.5	22	77	6	16				
14	5	1.3	7	2.1	8	12	4	3.0	27	102	10	24				
15	11	5.2	17	6.9	7	9.1	4	3.1	14	45	5	11				
16	5	2.6	9	4.1	10	13	4	2.6	7	22	7	15				
17	7	3.6	26	38	7	8.3	3	1.7	16	53	37	117				
18	7	3.8	102	229	6	6.1	2	.97	27	105	12	40				
19	12	6.8	50	110	10	9.2	2	.92	52	220	5	17				
20	12	6.8	21	31	15	12	2	.86	224	1200	3	9.7				
21	11	5.6	14	15	14	7.2	5	3.1	207	1370	4	12				
22	8	2.7	12	11	32	16	15	14	211	1370	4	11				
23	8	2.2	6	4.6	54	32	25	34	251	2010	5	15				
24	13	3.2	213	911	42	33	40	76	550	6700	7	23				
25	25	11	300	1686	16	11	61	165	280	2650	9	34				
26	22	18	63	221	10	5.9	43	107	41	282	11	45				
27	24	22	19	50	7	4.3	57	151	48	253	16	63				
28	17	12	13	30	6	4.5	67	21	22	96	13	48				
29	26	21	6	12	17	16	35	95	---	---	12	39				
30	24	17	5	8.5	5	6.1	22	48	---	---	15	46				
31	17	9.7	---	---	8	8.1	15	26	---	---	14	43				
TOTAL	---	217.4	---	3399.4	---	494.0	---	947.85	---	26308.7	---	8168.9				
APRIL MAY JUNE JULY AUGUST SEPTEMBER																
1	26	72	18	64	300	2270	26	26	27	12	11	2.0				
2	13	41	14	45	774	12500	28	34	16	6.3	7	1.4				
3	32	111	13	38	200	2650	14	13	13	4.7	12	2.2				
4	33	102	13	34	546	9640	78	69	14	4.8	13	3.2				
5	52	205	12	28	935	31800	87	73	17	5.4	11	4.3				
6	35	182	11	23	380	6480	175	293	23	12	11	3.4				
7	27	140	13	28	837	20900	350	954	60	52	11	2.7				
8	20	89	11	21	400	6490	100	198	62	50	14	3.6				
9	18	70	7	12	340	2960	70	91	52	31	18	6.4				
10	44	198	7	10	250	1570	52	66	27	13	17	6.1				
11	23	134	11	15	152	915	200	473	32	14	7	1.7				
12	51	302	7	10	148	727	85	142	53	20	6	1.2				
13	144	1070	5	7.2	147	695	36	39	23	8.7	10	1.6				
14	57	345	6	7.4	143	718	31	28	19	6.2	18	2.7				
15	95	657	14	25	61	237	90	118	19	5.1	30	17				
16	105	669	19	48	35	104	37	44	19	5.6	150	130				
17	107	792	11	22	31	77	35	28	45	19	100	69				
18	1090	22100	17	29	46	106	54	39	17	6.1	50	23				
19	456	5620	141	535	55	105	43	27	18	4.6	16	5.7				
20	200	1980	554	7030	47	86	23	13	19	4.4	10	3.3				
21	105	950	250	2930	24	42	27	14	17	3.6	6	1.8				
22	34	250	100	767	12	19	26	14	11	2.3	6	1.5				
23	32	192	37	172	12	16	26	14	9	1.8	8	1.5				
24	23	132	23	76	12	14	20	8.8	11	2.2	10	1.8				
25	16	85	16	40	11	11	17	6.7	10	2.0	7	1.1				
26	11	50	7	15	11	11	14	5.3	12	2.4	10	1.4				
27	9	35	8	15	12	13	10	3.6	13	2.4	7	.95				
28	26	86	6	16	11	10	53	29	11	2.0	8	1.1				
29	36	111	15	40	10	7.8	102	142	11	2.0	12	1.5				
30	50	169	20	60	16	12	33	28	9	1.7	12	1.5				
31	---	---	50	213	---	---	28	16	7	1.3	---	---				
TOTAL	---	36936	---	12315.6	---	101185.8	---	3049.4	---	308.6	---	304.65				
TOTAL LOAD FOR YEAR: 193636.30 TONS.																

KANAWHA RIVER BASIN

03200650 KANAWHA RIVER AT POCA, WV

LOCATION.--Lat 38°28'29", long 81°49'09", Putnam County, Hydrologic Unit 05050008, on left bank at John Amos Power Plant, at Poca, 200 ft (61 m) upstream from Pocatalico River, and at mile 39.2 (63.1 km).

DRAINAGE AREA.--11,435 mi² (29,617 km²), excludes that of Pocatalico River.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1975 to current year.

COOPERATION.--Records were furnished by Appalachian Electric Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 36.5°C Sept. 14, 1980; minimum daily, 0.0°C Jan. 18, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 35.0°C July 20; minimum, 3.5°C Dec. 25.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	---	---	15.0	18.0	18.0	---	22.0	26.0	26.5	26.0	30.5
2	30.0	---	---	---	19.0	11.0	20.0	21.0	28.0	27.0	30.5	31.5
3	---	---	---	14.5	---	16.5	21.0	20.0	29.0	31.5	32.0	30.5
4	19.5	---	14.0	7.0	14.5	17.0	22.0	20.0	31.0	29.5	30.0	---
5	---	---	22.0	8.5	9.0	19.0	23.5	22.0	28.5	33.0	32.0	---
6	---	16.0	21.0	---	10.0	19.0	22.0	28.0	30.5	31.0	30.5	---
7	21.0	24.5	24.0	---	9.5	18.5	22.0	19.0	28.0	33.0	---	---
8	21.5	28.0	24.5	5.0	14.0	19.0	24.0	21.0	28.0	31.0	---	---
9	28.0	27.0	25.5	---	13.5	19.0	25.5	22.0	31.0	31.0	29.0	25.5
10	29.0	25.0	20.5	---	14.5	20.0	26.5	27.0	31.0	33.5	29.0	22.0
11	26.5	18.0	19.0	---	15.5	22.0	26.5	26.0	26.5	30.0	30.5	30.5
12	---	17.0	19.5	---	5.5	---	28.0	24.5	28.0	---	30.0	30.0
13	---	19.0	20.0	---	10.5	23.0	27.0	23.5	29.0	29.5	26.5	29.0
14	22.0	20.0	19.0	---	10.5	15.5	28.0	25.5	30.0	31.0	---	---
15	21.5	21.0	19.0	14.5	11.5	17.0	21.0	26.5	30.5	25.5	30.5	31.5
16	24.5	21.0	19.0	20.0	16.5	23.0	---	---	29.5	29.0	31.0	29.5
17	22.0	21.5	19.0	12.0	23.0	19.0	---	---	28.0	30.5	25.0	24.5
18	28.0	22.0	16.5	13.0	16.0	24.5	---	---	24.5	---	24.0	24.5
19	23.5	19.5	17.0	13.0	23.0	16.0	---	24.5	29.0	---	26.5	21.5
20	24.5	16.5	6.0	15.5	---	17.0	21.5	23.5	---	35.0	24.5	26.0
21	30.0	18.5	6.5	15.0	---	---	21.0	22.0	28.5	31.0	25.5	26.5
22	28.0	17.0	9.5	18.0	---	---	23.5	24.0	---	29.5	---	28.5
23	21.0	20.0	17.0	18.5	21.5	20.0	28.0	---	26.0	25.5	25.5	22.0
24	17.0	25.5	19.5	---	20.0	---	26.5	---	25.5	26.5	25.5	21.0
25	23.5	20.0	3.5	---	19.5	20.0	---	26.5	30.0	24.5	26.0	23.5
26	11.5	---	6.0	24.5	---	16.5	18.0	28.5	---	26.5	28.0	26.0
27	13.0	---	14.5	---	16.5	---	26.0	28.5	---	28.0	26.5	29.0
28	26.0	---	13.0	14.5	23.5	19.5	26.5	29.0	---	32.0	28.5	28.0
29	19.0	---	16.0	14.5	---	28.0	28.0	29.5	---	28.5	29.5	23.5
30	---	---	---	15.5	---	27.0	22.0	---	26.0	24.5	30.0	26.0
31	---	---	---	---	---	26.0	---	30.0	---	27.0	31.0	---
MEAN	23.0	21.0	16.5	15.0	15.5	19.5	24.0	24.5	28.5	29.5	28.5	26.5
WTR YR 1981	MEAN	23.0		MAX	35.0	MIN	3.5					

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°31'32", long 81°54'40", Putnam County, Hydrologic Unit 05050008, on left bank at intake line to Ohio River Valley Water Sanitation Commission (ORSANCO) monitor at Kanawha Valley Power Company raw water intake at Winfield Dam, 1.0 mi (1.6 km) downstream from Winfield Bridge, and at mile 31.1, (50.0 km).

DRAINAGE AREA.--11,809 mi² (30,5895 km²).

PERIOD OF RECORD.--Water years 1957-70, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1957 to September 1970, January 1974 to September 1980.

pH: October 1974 to September 1980.

WATER TEMPERATURES: October 1956 to September 1970, January 1974 to September 1980.

DISSOLVED OXYGEN: October 1974 to September 1980.

REMARKS.--Discharges in water-quality tables are estimated.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,700 micromhos Apr. 21, 1961; minimum 76 micromhos Mar. 17, 1978.

pH: Maximum daily, 8.6 units May 14, 1977; minimum daily, 5.3 units July 16, 1979.

WATER TEMPERATURES: Maximum daily, 33.0°C July 24, 1964; minimum daily, 0.0°C Feb. 14, 1958, Mar. 12, 1960, Jan. 30, 1978.

DISSOLVED OXYGEN: Maximum daily, 16.0 mg/L Feb. 19, 20, 1977; minimum daily, 3.1 mg/L July 28, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
OCT											
07...	0930	E5040	274	6.4	20.0	.50	5.3	1.1	58	--	71
NOV											
04...	0855	E3930	270	6.6	14.0	.50	7.1	.82	--	--	75
DEC											
09...	0915	E8160	169	6.5	8.4	3.6	8.1	1.0	--	--	56
JAN											
22...	1300	E4950	350	7.4	2.0	1.0	12.4	1.7	97	100	87
FEB											
17...	1430	E14700	145	7.1	5.0	2.5	10.9	1.1	8	7	45
MAR											
11...	1300	E17600	148	7.5	6.0	4.0	11.2	1.1	140	193	49
APR											
28...	1300	E15600	154	7.3	15.5	1.4	9.4	.96	68	17	51
MAY											
20...	1230	E79100	125	6.8	14.0	55	9.8	1.3	K1930	K1620	43
JUN											
16...	1200	E15600	145	7.0	22.0	38	8.4	1.1	1070	100	46
JUL											
31...	1400	E5330	270	7.4	28.5	7.8	7.8	.98	2450	K3	79
AUG											
12...	1330	E5100	257	7.9	27.8	--	7.6	2.0	156	38	63
SEP											
02...	1300	E2960	340	7.4	24.5	4.4	7.0	1.1	34	48	97

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AC- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT											
07...	28	--	17	6.9	21	38	1.1	2.0	38	18	.1
NOV											
04...	35	--	19	6.7	18	34	.9	2.1	36	18	.1
DEC											
09...	23	--	15	4.4	10	27	.6	1.5	30	16	.1
JAN											
22...	55	--	24	6.6	28	41	1.3	1.8	44	40	.1
FEB											
17...	--	--	11	4.3	8.7	29	.6	1.4	21	11	<.1
MAR											
11...	--	--	13	4.0	7.8	25	.5	1.3	25	9.9	<.1
APR											
28...	--	--	13	4.4	7.5	24	.5	1.4	25	9.0	<.1
MAY											
20...	--	--	11	3.8	6.4	24	.4	1.5	25	5.2	<.1
JUN											
16...	--	--	12	3.9	5.5	20	.4	1.7	27	11	<.1
JUL											
31...	--	--	20	7.0	23	38	1.1	2.2	37	19	.1
AUG											
12...	--	--	16	5.5	20	40	1.1	2.1	37	22	<.1
SEP											
02...	--	.0	25	8.3	28	38	1.2	2.0	38	43	.1

K Results based on colony count outside the acceptable range (non-ideal colony count).

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILICA, DIS- SOLVED (MG/L AS SIO ₂)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO ₂ +NO ₃ TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 07...	5.1	150	136	.20	.55	.56	.330	.330	.24	.23	.57
NOV 04...	3.2	145	129	.20	.40	.41	.180	.180	.53	.23	.71
DEC 09...	4.5	102	105	.14	.71	.72	.230	.210	.08	.10	.31
JAN 22...	3.6	179	171	.24	.70	.76	.390	.390	.56	.51	.95
FEB 17...	4.3	91	79	.12	.77	.75	.130	.140	.29	.22	.42
MAR 11...	4.7	89	82	.12	.80	.81	.110	.100	.23	.17	.34
APR 28...	6.3	93	83	.13	.60	.60	.140	.130	.28	.23	.42
MAY 20...	5.6	78	78	.11	.58	.55	.100	.150	.68	.62	.78
JUN 16...	6.2	85	77	.12	.53	.52	.050	.110	.50	.48	.55
JUL 31...	2.9	184	143	.25	.44	.44	.260	.260	.38	.28	.64
AUG 12...	3.9	148	133	.20	.50	1.4	.200	.000	.74	.61	.94
SEP 02...	.4	201	175	.27	.34	.35	.170	.190	.60	.51	.77

DATE	NITRO- GEN,NH ₄ + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)
OCT 07...	.01	.56	1.1	5.0	.060	.040	--	--	--	--	--
NOV 04...	.30	.41	1.1	4.9	.050	.030	--	--	--	--	--
DEC 09...	.00	.31	1.0	4.5	.050	.040	1	0	1	100	60
JAN 22...	.05	.90	1.7	7.3	.120	.080	--	--	--	--	--
FEB 17...	.06	.36	1.2	5.3	.030	.020	--	--	--	--	--
MAR 11...	.07	.27	1.1	5.0	.040	<.010	0	0	0	100	0
APR 28...	.06	.36	1.0	4.5	.040	.020	--	--	--	--	--
MAY 20...	.01	.77	1.4	6.0	.100	<.010	--	--	--	--	--
JUN 16...	.00	.59	1.1	4.8	.070	.030	0	0	0	100	40
JUL 31...	.10	.54	1.1	4.8	.100	.040	--	--	--	--	--
AUG 12...	.33	.61	1.4	6.4	.070	.020	--	--	--	--	--
SEP 02...	.07	.70	1.1	4.9	.050	<.010	2	0	2	100	0

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRC- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 07...	--	--	--	--	--	--	--	--	--	--	--
NOV 04...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	40	1	0	3	100	90	10	0	0	2	5
MAR 11...	100	0	0	0	10	0	10	0	0	0	4
JUN 16...	60	1	--	<1	10	--	<10	1	0	3	3
SEP 02...	100	<1	--	<1	10	0	10	1	--	<1	3

DATE	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 07...	--	--	--	--	--	--	--	--	--	--	--
NOV 04...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	4	1	640	540	60	3	3	0	80	10	70
MAR 11...	3	1	600	530	70	13	11	2	60	10	50
JUN 16...	0	3	1400	1400	50	4	4	0	90	50	40
SEP 02...	0	3	270	260	10	3	--	<1	70	50	20

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)
OCT 07...	--	--	--	--	--	--	--	--	--	0	--
NOV 04...	--	--	--	--	--	--	--	--	--	--	--
DEC 09...	<.1	--	<.1	6	6	0	0	0	0	0	0
MAR 11...	.1	.0	.1	6	2	4	0	0	0	1	1
JUN 16...	<.1	--	<.1	4	0	6	0	0	0	0	0
SEP 02...	1.2	.0	1.2	2	0	2	1	--	<1	<1	--

DATE	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)
OCT 07...	--	--	--	--	--	--	--	--	--	--	--
NOV 04...	--	--	--	--	<1.7	2.6	<1.2	1.8	3.0	1.6	2.9
DEC 09...	0	30	20	6	--	--	--	--	--	--	--
MAR 11...	0	50	40	10	--	--	--	--	--	--	--
JUN 16...	0	20	--	<4	--	--	--	--	--	--	--
SEP 02...	<1	40	--	<10	--	--	--	--	--	--	--

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)
OCT 07...	--	--	--	2.8	--	--	--	--	--	--
NOV 04...	1.6	.05	.16	2.5	--	--	ND	ND	ND	ND
DEC 09...	--	--	--	--	2.2	.5	--	--	--	--
JAN 22...	--	--	--	2.4	--	--	--	--	--	--
FEB 17...	--	--	--	1.8	--	--	--	--	--	--
MAR 11...	--	--	--	--	1.5	.3	--	--	--	--
APR 28...	--	--	--	2.1	--	--	--	--	--	--
MAY 20...	--	--	--	4.8	--	--	--	--	--	--
JUN 16...	--	--	--	--	2.8	.4	--	--	--	--
JUL 31...	--	--	--	3.3	--	--	--	--	--	--
AUG 12...	--	--	--	4.0	--	--	--	--	--	--
SEP 02...	--	--	--	--	2.5	.7	--	--	--	--

DATE	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)
NOV 04...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	METH- OXY- CHLOR, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 07...	--	--	--	--	--	--	--	23	312	75
NOV 04...	ND	ND	ND	ND	ND	ND	410	--	--	--
JAN 22...	--	--	--	--	--	--	--	--	1090	46
FEB 26...	--	--	--	--	--	--	--	82	--	--
MAR 17...	--	--	--	--	--	--	--	21	833	81
APR 11...	--	--	--	--	--	--	64	21	998	95
MAY 28...	--	--	--	--	--	--	--	30	1260	92
JUN 20...	--	--	--	--	--	--	2900	1010	216000	95
JUL 16...	--	--	--	--	--	--	660	63	2650	40
AUG 31...	--	--	--	--	--	--	38000	32	460	36
SEP 12...	--	--	--	--	--	--	11000	11	151	47
SEP 02...	--	--	--	--	--	--	6400	13	103	45

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON								
DATE TIME	NOV 4.80 0855	MAR 11.81 1300	MAY 20.81 1230	JUN 16.81 1200				
TOTAL CELLS/ML	410	64	2900	660				
DIVERSITY: DIVISION	0.2	0.7	1.1	1.7				
...CLASS	0.2	0.7	1.1	1.7				
...ORDER	0.2	0.7	2.6	2.8				
...FAMILY	0.2	0.7	2.8	3.3				
...GENUS	0.5	1.5	3.0	3.5				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
HACILLARIOPHYTA (DIATOMS)								
..HACILLARIOPHYCEAE								
...ACHNANTHALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	84	3	70	11
....COCCONEIS	--	-	--	-	28	1	--	-
..HACILLARIALES								
...NITZSCHIAEAE								
....NITZSCHIA	--	-	--	-	340	11	14	2
..EUPODISCALES								
...COSCINODISCAEAE								
....CYCLOTELLA	26	6	26# 40		130	4	98	15
....MELOSIRA	370# 91		26# 40		420	14	28	4
....STEPHANODISCUS	--	-	--	-	--	-	--	-
..FRAGILARIALES								
...FRAGILARIAEAE								
....DIATOMA	--	-	--	-	110	4	--	-
....SYNEDRA	--	-	--	-	56	2	--	-
..NAVICULALES								
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	84	3	--	-
...GOMPHONEMACEAE								
....GOMPHONEMIS	--	-	--	-	*	0	--	-
....GOMPHONEMA	--	-	--	-	110	4	42	6
...NAVICULACEAE								
....NAVICULA	--	-	--	-	220	8	28	4
..SURIPELLALES								
...SURIPELLACEAE								
....SURIPELLA	--	-	--	-	84	3	--	-
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHLOROCOCCACEAE								
....TETRAEDRON	--	-	--	-	--	-	--	-
...COCCOMYXACEAE								
....ELAKATOTHRIX	--	-	--	-	--	-	56	9
...DICTYOSPHAERIAEAE								
....DICTYOSPHAERIUM	--	-	--	-	28	1	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	13	3	--	-	--	-	140# 21	
....CHODATELLA	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....GLOEOACTINIUM	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	--	-	28	4
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	42	6
...VOLVOCAEAE								
....EUDORINA	--	-	--	-	--	-	--	-
....PANDORINA	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..CHRYSOPHYCEAE								
...OCHROMONADALES								
...OCHROMONADACEAE								
....OCHROMONAS	--	-	--	-	--	-	14	2
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-

NOTE: * - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 4,80 0855		MAR 11,81 1300		MAY 20,81 1230		JUN 16,81 1200	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	14	2
...NOSTOCALES								
...HAMMATOIDEACEAE								
....RAPHIDIOPSIS	--	-	--	-	84	3	56	9
...OSCILLATORIALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	1100#	38	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	13#	20	--	-	--	-
....TRACHELOMONAS	--	-	--	-	*	0	28	4

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 31.81 1400	AUG 12.81 1330	SEP 2.81 1300			
TOTAL CELLS/ML	38000	11000	6400			
DIVERSITY: DIVISION	0.7	1.3	1.5			
..CLASS	0.7	1.3	1.5			
...ORDER	0.7	1.8	1.6			
...FAMILY	0.8	2.4	1.8			
....GENUS	1.0	2.8	2.1			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...ACHNANTHALES						
....ACHNANTHACEAE						
...ACHNANTHES	--	-	--	-	--	-
....COCONEIS	--	-	--	-	--	-
..BACILLARIALES						
...NITZSCHIAEAE						
....NITZSCHIA	--	-	--	-	56	1
..EUPODISCALES						
...COSCINODISCAEAE						
...CYCLOTELLA	610	2	720	7	42	1
...MELOSIRA	3400	9	2600*	24	1500*	24
...STEPHANOUISCUS	*	0	--	-	--	-
..FRAGILARIALES						
...FRAGILARIACEAE						
...DIATOMA	--	-	--	-	--	-
...SYNEURA	--	-	220	2	--	-
..NAVICULALES						
...CYMBELLACEAE						
...CYMBELLA	--	-	--	-	--	-
...GOMPHONEMACEAE						
...GOMPHONEIS	--	-	--	-	--	-
...GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
...NAVICULA	--	-	*	0	--	-
..SURIPELLALES						
...SURIPELLACEAE						
...SURIPELLA	--	-	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHLOROCOCCACEAE						
...TETRAEDRUM	*	0	--	-	--	-
...COCCOMYXACEAE						
...ELAKATOTHRIX	--	-	--	-	--	-
...DICTYOSPHAERIACEAE						
...DICTYOSPHAERIUM	--	-	220	2	--	-
...HYDRODICTYACEAE						
...PEDIASTRUM	--	-	290	3	--	-
...MICRACTINIACEAE						
...MICRACTINIUM	250	1	140	1	*	0
...OOCYSTACEAE						
...ANKISTROUESMUS	200	1	--	-	150	2
...CHODATELLA	*	0	--	-	*	0
...KIRCHNERIELLA	--	-	--	-	56	1
...OOCYSTIS	--	-	--	-	*	0
...THEUBARIA	*	0	--	-	--	-
...PALMELLACEAE						
...SPHAEROCYSTIS	--	-	--	-	84	1
...SCENEDESMACEAE						
...GLOEUACTIONIUM	--	-	--	-	56	1
...SCENEDESMUS	400	1	220	2	140	2
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	--	-	1800*	17	98	2
...VOLVOCAEAE						
...EUDORINA	--	-	570	5	--	-
...PANDORINA	--	-	2900*	27	--	-
CHRYSOPHYTA						
..CHRYSOPHYCEAE						
...OCHROMONADALES						
...OCHROMONAUACEAE						
...OCHROMONAS	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
...CRYPTOMONAS	--	-	--	-	210	3
...CRYPTOMONADACEAE						
...CRYPTOMONAS	--	-	--	-	130	2

NOTE: * - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 31.81 1400		AUG 12.81 1330		SEP 2.81 1300	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	32000#	84	1100	10	3600#	57
....ANACYSTIS	760	2	--	-	180	3
...NOSTOCALES						
...HAMMATOIDEACEAE						
...RAPHIDIOPSIS	--	-	--	-	--	-
...OSCILLATORIALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
....TRACHELOMONAS	*	0	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

OHIO RIVER MAIN STEM

337

03201500 OHIO RIVER AT POINT PLEASANT, WV

LOCATION.--Lat 38°50'25", long 82°08'30", Mason County, Hydrologic Unit 05030202, on left bank at Point Pleasant, 1,200 ft (366 m) upstream from Kanawha River, and at mile 265.4 (427.0 km) measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--52,760 mi² (136,650 km²), approximately, includes that of Kanawha River.

PERIOD OF RECORD.--March 1940 to September 1977, (since October 1952, no low-flow records). October 1977 to current year (gage heights only). Records of gage heights collected in this vicinity since 1889 are in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 514.10 ft (156.698 m) Sandy Hook datum. Prior to Oct. 1, 1951, water-stage recorder at site 0.3 mi (0.5 km) upstream at same datum.

REMARKS.--Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 55.00 ft (16.764 m) Apr. 16, 1948; minimum gage height recorded, 22.52 ft (6.864 m) Sept. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 62.8 ft (19.14 m) Mar. 30, 1913. Flood of Jan. 27, 1937, reached a stage of 62.7 ft (19.11 m).

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 37.38 ft (11.393 m) Feb. 25; minimum gage height, 23.26 ft (7.090 m) Nov. 16.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.78	24.32	24.65	24.47	24.34	28.39	24.97	26.31	26.33	24.47	24.43	24.65
2	24.72	24.66	24.32	24.48	27.13	28.89	25.03	27.32	26.33	25.17	24.68	24.50
3	24.17	24.31	24.65	24.62	28.79	28.11	24.93	27.27	26.10	24.22	24.68	24.48
4	24.25	24.25	24.81	24.73	26.85	27.20	24.78	26.63	26.08	24.23	24.40	24.79
5	24.61	24.66	24.91	24.42	25.35	26.77	25.02	25.54	26.58	24.26	24.41	24.79
6	24.43	24.18	24.65	24.21	24.86	27.31	25.68	25.47	27.34	24.35	24.61	25.24
7	24.86	24.24	24.59	24.71	25.44	27.49	25.56	25.56	29.42	24.72	24.32	24.59
8	24.53	24.47	24.70	24.82	25.62	26.70	24.95	25.22	31.82	24.44	24.78	24.23
9	24.20	24.17	24.59	24.82	25.65	25.74	24.61	24.93	30.17	24.20	24.98	24.33
10	24.66	24.12	24.95	24.82	25.02	25.19	24.71	24.63	26.92	24.28	25.07	24.50
11	24.61	24.59	25.29	24.76	25.47	25.04	24.76	24.67	28.36	24.33	24.42	24.62
12	24.43	24.19	25.31	24.89	26.24	25.13	25.17	24.90	29.41	24.48	24.49	24.57
13	24.46	24.21	25.27	24.88	26.43	24.70	27.94	25.76	27.45	24.27	24.91	24.64
14	24.16	24.62	25.29	24.58	25.76	24.47	29.07	25.59	28.44	24.06	25.14	24.72
15	24.16	24.65	24.90	24.76	25.51	24.76	28.67	25.64	29.41	24.41	24.71	24.51
16	24.41	23.57	24.34	24.90	26.04	24.60	27.62	26.61	27.32	24.67	24.53	24.74
17	24.63	23.66	24.18	25.04	26.06	24.66	27.17	26.56	26.63	24.88	24.73	24.71
18	24.48	24.17	24.27	24.79	26.70	24.98	27.75	25.78	26.42	24.98	24.83	24.64
19	24.67	24.36	24.54	24.76	27.32	24.78	28.24	25.82	25.39	24.95	24.47	24.76
20	24.56	24.64	24.37	24.88	28.05	24.61	27.72	26.47	25.12	24.99	24.14	24.57
21	24.28	24.04	24.21	24.90	29.94	24.61	26.73	27.58	24.86	24.85	24.30	24.51
22	24.08	24.42	24.45	24.68	32.55	24.39	26.30	27.03	25.02	24.80	24.82	24.48
23	24.21	24.05	24.42	25.06	34.68	24.43	25.88	25.62	25.23	24.82	24.80	24.69
24	24.17	24.38	24.40	24.93	35.97	24.81	25.52	25.04	25.29	24.58	24.71	24.98
25	24.45	24.83	24.65	24.44	36.76	24.84	25.98	24.52	24.49	24.46	24.73	24.94
26	24.47	24.97	24.22	24.63	34.78	24.74	26.10	24.62	24.95	24.54	24.91	24.47
27	24.58	25.16	24.21	24.92	30.91	24.88	25.77	24.70	25.06	24.78	24.59	24.82
28	24.43	25.04	24.42	25.22	28.56	25.54	25.50	24.92	24.92	24.79	24.50	24.91
29	24.34	24.74	24.47	24.99	---	25.58	25.26	24.79	24.66	24.80	24.72	24.43
30	24.31	24.93	24.38	24.37	---	25.35	25.47	25.48	24.43	24.34	24.73	24.28
31	24.40	---	24.22	24.38	---	25.05	---	26.11	---	24.93	24.56	---
MEAN	24.44	24.42	24.60	24.74	28.10	25.60	26.10	25.71	26.67	24.58	24.65	24.64
MAX	24.86	25.16	25.31	25.22	36.76	28.89	29.07	27.58	31.82	25.17	25.14	25.24
MIN	24.08	23.57	24.18	24.21	24.34	24.39	24.61	24.52	24.43	24.06	24.14	24.23

WTR YR 1981 MEAN 25.33 MAX 36.76 MIN 23.57

GUYANDOTTE RIVER BASIN

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV

LOCATION.--Lat 37°36'15", long 81°38'44", Wyoming County, Hydrologic Unit 05070101, on right bank 75 ft (23 m) upstream from Doublecamp Branch, and 3.1 mi (5.0 km) east of Baileysville.

DRAINAGE AREA.--308 mi² (798 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,140.00 ft (347.472 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 10, 1969, at site 25 ft (8 m) upstream at same datum.

REMARKS.--Water-discharge records good except those for January and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years, 465 ft³/s (13.17 m³/s), 20.50 in/yr (521 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,700 ft³/s (1,040 m³/s) Apr. 5, 1977, gage height, 26.89 ft (8.196 m), from rating curve extended above 14,000 ft³/s (400 m³/s) on basis of slope-area measurement of peak flow; minimum, 21 ft³/s (0.59 m³/s) Oct. 14, 1970, gage height, 2.44 ft (0.744 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,400 ft³/s (120 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 20	0500	4480 127	9.36 2.853	June 7	0400	*13600 385	17.45 5.319
June 2	0400	5880 167	10.79 3.289				

Minimum discharge, 50 ft³/s (1.42 m³/s) Oct. 21, Dec. 22, gage height 2.72 ft (0.829 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	71	155	153	184	694	497	389	1560	331	115	70
2	95	64	158	164	446	748	764	356	4330	272	108	88
3	89	59	178	153	650	618	700	314	2270	220	99	94
4	103	62	166	134	430	511	586	290	2020	203	96	210
5	105	80	164	90	320	893	655	275	3070	226	99	261
6	84	73	158	100	270	1150	780	283	2470	1230	113	139
7	75	71	153	120	250	893	716	268	7780	1090	151	172
8	75	64	137	125	210	672	618	239	2270	554	186	142
9	80	62	144	110	180	540	576	232	1410	376	172	163
10	75	57	206	90	200	473	607	212	1080	302	111	142
11	73	57	196	80	261	423	602	279	1530	254	103	103
12	69	66	184	76	290	381	576	294	1060	216	199	92
13	59	55	169	95	220	339	591	246	844	186	254	82
14	53	57	155	117	220	314	586	229	713	283	151	82
15	60	60	134	115	230	279	576	356	583	356	128	108
16	60	62	134	105	239	335	526	381	509	369	172	169
17	62	66	134	93	306	397	819	310	498	400	223	186
18	67	155	124	80	432	397	1620	268	410	283	151	126
19	64	178	115	84	464	397	1150	1650	378	226	123	103
20	55	137	103	91	644	372	1220	3470	347	196	116	101
21	52	117	69	117	732	343	1290	1580	322	216	101	90
22	57	99	64	164	634	330	1020	947	322	226	92	80
22	57	99	64	164	634	330	1020	947	322	226	92	80
23	62	87	93	203	655	360	836	683	299	286	84	76
24	62	389	117	216	830	428	813	531	265	150	80	70
25	95	683	137	212	710	672	716	441	254	145	82	61
26	196	360	84	222	566	742	612	385	356	120	86	56
27	122	272	139	335	455	721	540	468	272	123	84	59
28	87	236	129	423	402	661	487	965	230	157	80	59
29	91	216	129	343	---	545	455	1210	206	176	70	55
30	95	181	147	261	---	516	423	1070	196	163	70	55
31	82	---	158	196	---	487	---	1530	---	131	68	---
TOTAL	2507	4196	4333	4867	11430	16631	21957	20151	37854	9466	3767	3294
MEAN	80.9	140	140	157	408	536	732	650	1262	305	122	110
MAX	196	683	206	423	830	1150	1620	3470	7780	1230	254	261
MIN	52	55	64	76	180	279	423	212	196	120	68	55
CFSM	.26	.46	.46	.51	1.33	1.74	2.38	2.11	4.10	.99	.40	.36
IN.	.30	.51	.52	.59	1.38	2.01	2.65	2.43	4.57	1.14	.45	.40

CAL YR 1980	TOTAL	168935	MEAN 462	MAX 4830	MIN 52	CFSM 1.50	IN 20.40
WTR YR 1981	TOTAL	140453	MEAN 385	MAX 7780	MIN 52	CFSM 1.25	IN 16.96

GUYANDOTTE RIVER BASIN

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03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1973 to October 1976, January 1977 to September 1979.

WATER TEMPERATURES: October 1973 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1973 to September 1979.

INSTRUMENTATION.--Temperature recorder since June 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 764 micromhos Oct. 22, 1973, Oct. 14, 1974; minimum daily, 58 micromhos Mar. 30, 1975.

WATER TEMPERATURES: Maximum, 30.5°C June 28, 1978; minimum, 0.0°C many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,200 mg/L Jan. 26, 1978; minimum daily mean, 0 mg/L Nov. 12, 23, 1976.

SEDIMENT LOADS.--Maximum daily, 56,800 tons (51,500 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) Nov. 12, 23, 1976.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum 28.0°C July 27; minimum recorded, 0.5°C many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)		
OCT 09...	1620	81	625	--	17.0	--		
NOV 24...	1630	496	440	7.1	5.5	--		
JAN 12...	1255	72	500	7.6	.0	--		
FEB 19...	1338	485	230	6.7	8.5	--		
APR 08...	1235	607	240	7.0	11.0	--		
JUN 17...	1620	566	460	7.6	23.5	--		
JUL 22...	1315	330	495	8.2	24.0	99		
JUL 30...	1340	152	600	8.1	23.5	--		
SEP 23...	1210	71	600	8.2	17.0	--		
DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINEITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
JUL 22...	24	9.5	55	2.4	120	100	5.1	302
DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUL 22...	.41	269	1300	1300	20	110	60	50

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX		MIN		MAX		MIN		MAX		MIN		MAX		MIN	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	19.5	17.0	10.0	9.0	5.0	3.5	2.5	1.5	2.0	.5	7.5	7.0				
2	19.0	17.5	9.5	8.5	5.0	4.0	2.5	2.0	2.5	2.0	7.5	6.0				
3	17.5	17.0	9.5	8.0	4.5	4.0	2.0	1.0	1.5	.5	6.5	5.0				
4	16.5	15.0	10.5	9.5	3.5	3.0	1.5	.5	.5	.5	5.5	4.5				
5	15.0	14.0	10.5	9.5	4.0	3.0	1.0	.5	.5	.5	6.0	5.0				
6	14.5	13.0	9.5	8.5	5.5	3.5	1.0	.5	1.0	.5	5.5	5.0				
7	14.0	13.0	9.5	8.0	7.0	5.0	.5	.5	1.0	.5	5.5	4.5				
8	15.0	13.5	10.5	9.0	8.0	6.0	.5	.5	1.0	.5	4.5	4.0				
9	16.5	15.0	11.0	10.0	9.0	7.5	.5	.5	1.0	.5	4.5	4.0				
10	17.5	16.0	11.5	10.0	9.0	8.0	.5	.5	1.5	.5	5.5	4.0				
11	18.0	17.0	10.0	7.5	7.5	6.0	.5	.5	2.5	1.5	5.5	5.0				
12	17.5	15.0	8.0	6.5	5.5	4.5	.5	.5	1.0	.5	7.0	5.0				
13	14.5	13.5	7.0	6.0	4.5	3.5	.5	.5	1.0	.5	7.0	5.5				
14	13.5	12.5	6.5	6.0	4.0	3.5	.5	.5	2.0	.5	7.5	5.5				
15	13.5	12.0	7.5	6.5	3.5	3.0	.5	.5	2.5	1.0	7.5	5.0				
16	14.0	12.5	7.5	7.5	4.0	3.5	.5	.5	4.0	2.0	7.0	5.5				
17	15.0	13.0	7.5	7.0	3.5	3.5	.5	.5	5.5	3.5	6.0	4.0				
18	16.0	14.5	7.0	6.0	3.5	2.5	.5	.5	8.0	6.0	5.5	5.0				
19	16.0	15.5	6.0	5.5	3.5	3.0	.5	.5	8.0	7.5	5.5	4.5				
20	16.0	14.0	5.0	4.0	3.0	1.0	.5	.5	8.0	7.5	4.5	3.0				
21	14.5	13.0	4.5	3.0	1.5	.5	.5	.5	8.0	7.0	4.5	3.0				
22	13.5	12.5	4.0	3.0	1.5	.5	.5	.5	8.0	7.0	4.5	3.5				
23	13.5	12.5	4.0	3.5	1.0	.5	1.0	.5	8.0	7.5	4.0	3.0				
24	13.0	11.5	6.5	4.0	1.0	1.0	1.5	.5	8.0	6.0	7.0	3.5				
25	12.5	10.5	7.5	6.5	1.0	.5	1.5	.5	6.5	5.0	8.0	6.0				
26	10.5	9.5	6.5	5.5	1.0	.5	2.0	.5	7.0	5.5	8.0	6.5				
27	9.0	7.5	5.5	5.0	1.0	.5	4.0	1.0	7.0	5.0	8.0	7.0				
28	10.5	9.0	5.0	5.0	1.0	.5	4.0	3.5	7.0	5.5	9.5	7.0				
29	10.5	10.0	4.5	4.0	1.0	.5	3.5	2.5	---	---	11.0	8.5				
30	11.0	10.0	4.5	3.5	1.0	1.0	3.0	2.0	---	---	12.5	10.5				
31	10.5	9.5	---	---	1.5	1.0	2.0	1.0	---	---	13.5	10.5				
MONTH	19.5	7.5	11.5	3.0	9.0	.5	4.0	.5	8.0	.5	13.5	3.0				
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER					
1	13.0	12.0	15.5	14.5	16.0	15.0	22.5	21.0	24.0	21.0	24.5	23.5				
2	12.0	10.5	14.5	13.0	16.0	13.5	21.5	20.0	23.5	21.5	25.0	23.5				
3	12.5	10.5	15.0	12.0	16.0	14.5	22.0	20.5	25.0	22.0	25.0	23.5				
4	14.0	11.0	17.0	13.5	16.5	15.5	23.0	20.5	27.0	23.0	25.0	23.5				
5	14.0	13.0	18.5	15.5	16.5	14.5	23.0	21.5	27.5	24.5	24.0	23.0				
6	12.5	10.0	18.0	17.0	16.5	15.0	22.5	18.5	27.5	25.0	25.0	22.5				
7	10.5	8.0	18.0	16.0	16.0	14.0	21.0	18.0	26.5	25.0	25.0	22.5				
8	12.5	9.0	18.0	15.0	16.5	14.5	23.0	20.5	26.0	24.0	23.5	22.5				
9	12.5	12.0	18.5	15.0	17.0	16.5	24.5	22.0	26.5	24.0	22.0	20.5				
10	13.0	11.5	18.0	16.5	18.0	16.5	26.0	24.0	27.0	23.5	21.5	19.0				
11	15.0	13.0	17.5	16.0	18.5	17.5	27.0	24.5	27.0	24.0	22.0	19.0				
12	16.0	14.5	16.0	13.5	19.0	18.0	27.5	25.5	26.5	23.5	22.5	20.0				
13	17.5	15.0	16.5	12.5	19.5	18.0	27.0	25.5	25.0	23.5	23.0	21.0				
14	17.0	15.5	18.0	15.0	21.0	18.5	27.0	25.0	25.0	22.5	23.0	21.5				
15	15.5	13.5	17.5	16.0	23.5	20.0	25.5	23.5	25.0	22.5	22.5	21.5				
16	14.0	12.0	16.0	14.5	24.0	21.5	24.5	23.5	26.5	23.5	21.5	20.5				
17	14.0	12.5	17.0	14.0	23.5	21.5	24.5	22.0	25.5	24.0	20.5	19.0				
18	13.5	11.5	17.0	16.0	22.0	19.5	25.5	23.0	25.0	22.0	19.0	17.0				
19	13.5	12.5	16.5	12.5	22.5	20.5	26.0	24.5	24.5	22.0	17.5	16.0				
20	12.5	11.5	12.5	11.0	22.0	21.0	26.0	25.0	24.0	21.5	17.5	15.0				
21	11.5	10.0	13.0	11.0	22.5	20.5	26.0	24.5	23.5	21.0	18.5	16.0				
22	12.5	11.5	15.5	13.0	23.0	21.5	25.5	24.0	23.0	20.0	18.5	17.0				
23	14.0	12.0	17.0	14.0	24.0	21.5	25.5	23.0	23.5	20.5	18.5	17.0				
24	13.5	11.0	18.5	15.5	24.5	22.0	27.0	23.5	24.0	21.5	17.5	16.0				
25	11.5	9.5	19.0	17.0	24.5	23.0	27.0	24.0	24.0	22.5	17.0	15.5				
26	12.5	10.5	19.5	18.0	23.5	22.0	27.5	24.5	24.0	21.5	18.5	16.0				
27	15.0	11.5	19.5	17.5	23.0	21.0	28.0	25.0	24.0	22.0	19.0	17.5				
28	18.0	14.5	17.5	15.5	23.5	21.0	27.5	25.5	24.5	22.5	19.5	18.0				
29	17.5	16.5	15.5	14.5	24.0	21.5	26.0	24.0	24.5	22.5	18.5	16.5				
30	16.5	15.5	16.5	14.5	23.5	22.0	24.5	22.0	24.0	22.5	18.0	16.5				
31	---	---	16.0	15.5	---	---	24.0	21.5	24.5	22.5	---	---				
MONTH	18.0	8.0	19.5	11.0	24.5	13.5	26.0	18.0	27.5	20.0	25.0	15.0				
YEAR	28.0	.5														

03202490 INDIAN CREEK AT FANROCK, WV

LOCATION.--Lat 37°34'00", long 81°39'10", Wyoming County, Hydrologic Unit 05070101, on left bank at Fanrock, 20 ft (6 m) downstream from Brier Creek, 1.8 mi (2.9 km) downstream from Stop Branch, and at mile 2.5 (4.0 km).

DRAINAGE AREA.--40.7 mi² (105.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1974 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 1,210 ft (369 m), from topographic map. Prior to Oct. 22, 1974, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for January and February, which are poor.

AVERAGE DISCHARGE.--6 years, 57.2 ft³/s (1.620 m³/s), 19.09 in/yr (485 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft³/s (178 m³/s) Apr. 4, 1977, gage height, 18.67 ft (5.691 m), from rating curve extended above 700 ft³/s (20 m³/s) on basis of slope-area measurement of peak flow; minimum, 1.1 ft³/s (0.03 m³/s) July 22, 23, 24, Aug. 12, 13, 14, 1976, gage height, 6.54 ft (1.993 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 500 ft³/s (14 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 17	2245	538 15.2	10.22 3.115	June 7	0100	*3700 105	15.76 4.804
May 20	0300	1130 32.0	11.78 3.591				

Minimum daily discharge, 1.6 ft³/s (0.05 m³/s) Oct 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	6.3	18	17	17	71	63	29	195	118	4.5	3.3
2	3.7	6.6	18	17	60	71	106	25	371	31	4.0	3.5
3	4.8	6.3	19	16	70	64	92	21	219	17	4.2	4.5
4	7.7	7.0	16	11	50	61	72	19	161	12	3.5	8.8
5	5.0	7.3	17	8.2	40	148	99	17	356	9.9	3.0	7.3
6	3.7	7.7	15	9.6	33	171	124	17	658	93	5.0	4.2
7	3.0	7.3	14	10	27	113	100	16	1380	69	7.3	28
8	2.6	6.6	12	11	24	77	76	13	217	34	20	11
9	2.4	7.0	16	9.0	20	58	65	12	102	21	10	9.5
10	2.3	6.3	21	7.4	19	46	55	11	70	16	6.3	5.7
11	2.3	6.3	19	6.0	27	40	50	20	52	12	4.8	4.0
12	2.3	6.0	18	6.2	30	34	49	17	36	9.9	11	3.0
13	2.1	5.7	17	8.0	23	30	48	13	34	8.0	11	2.6
14	2.1	5.4	15	8.8	25	27	55	12	30	31	6.3	4.8
15	2.3	5.0	13	9.5	29	23	59	32	23	19	5.4	7.7
16	2.3	4.5	14	8.4	32	40	58	25	19	18	9.1	17
17	2.4	13	12	7.0	59	56	232	20	21	14	6.3	8.8
18	2.4	37	9.9	6.3	95	60	369	18	16	9.5	4.0	5.4
19	2.3	24	9.5	6.3	95	55	161	451	13	8.0	3.3	4.0
20	2.0	16	7.3	7.0	111	47	211	696	12	8.8	2.6	4.0
21	1.9	12	4.8	14	104	40	208	179	12	14	2.3	3.0
22	1.8	9.1	4.5	25	85	37	124	90	11	58	2.1	2.4
23	1.8	8.8	5.7	34	94	45	89	58	9.5	27	2.0	2.1
24	1.6	112	11	35	110	70	77	41	7.7	15	1.9	2.1
25	24	76	12	31	90	158	63	30	9.1	10	1.9	2.0
26	24	37	8.0	30	69	136	51	25	22	9.1	1.9	1.9
27	12	30	8.8	31	53	112	44	83	9.9	7.3	2.0	1.9
28	9.1	25	9.5	28	48	81	38	282	7.0	7.0	2.0	1.9
29	8.8	23	11	24	---	65	34	238	6.0	12	2.0	2.0
30	8.8	20	15	20	---	62	31	161	15	8.0	2.4	1.9
31	7.3	---	15	14	---	50	---	257	---	5.7	3.0	---
TOTAL	162.8	544.2	406.0	475.7	1539	2148	2903	2928	4094.2	732.2	155.1	168.3
MEAN	5.25	18.1	13.1	15.3	55.0	69.3	96.8	94.5	136	23.6	5.00	5.61
MAX	24	112	21	35	111	171	369	696	1380	118	20	28
MIN	1.6	4.5	4.5	6.0	17	23	31	11	6.0	5.7	1.9	1.9
CFSM	.13	.45	.32	.38	1.35	1.70	2.38	2.32	3.34	.58	.12	.14
IN.	.15	.50	.37	.43	1.41	1.96	2.65	2.68	3.74	.67	.14	.15
CAL YR 1980	TOTAL	20556.1	MEAN	56.2	MAX	1450	MIN	1.6	CFSM	1.38	IN	18.79
WTR YR 1981	TOTAL	16256.5	MEAN	44.5	MAX	1380	MIN	1.6	CFSM	1.09	IN	14.86

GUYANDOTTE RIVER BASIN

03202490 INDIAN CREEK AT FANROCK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1974 to September 1978.

WATER TEMPERATURES: November 1974 to March 1975, August 1975 to August 1981 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: June 1974 to September 1978.

INSTRUMENTATION.--Temperature recorder November 1974 to August 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 349 micromhos July 20, 1976; minimum daily, 42 micromhos Jan. 1, 1976.

WATER TEMPERATURES: Maximum, 26.0°C Aug. 24, 1975, Aug. 11, 1980; minimum, -1.0°C Jan. 6, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,130 mg/L Mar. 10, 1978; minimum daily mean, 1 mg/L Oct. 8, 1974, several days during 1976, and April 17, 1978.

SEDIMENT LOADS: Maximum daily, 5,410 tons (4,910 metric tons) Apr. 4, 1977; minimum daily, 0 ton (0 metric ton) Oct. 8, 1974.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 25.5°C July 12, 27; minimum, 0.0°C many days in January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARDI- NESS (MG/L AS CACO3)
OCT						
09...	0935	235	300	--	13.0	--
JAN						
12...	1545	6.3	190	7.2	.0	--
FEB						
19...	1020	97	95	6.0	7.0	--
MAR						
08...	0950	76	80	6.9	8.0	--
JUN						
16...	1640	13	160	7.0	24.5	--
JUL						
22...	1400	50	89	7.4	23.0	28
30...	1105	8.1	170	7.1	20.5	--
SEP						
23...	1410	2.1	240	7.1	16.0	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
JUL								
22...	6.8	2.6	4.8	.4	19	16	3.1	64

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUL								
22...	.09	10.3	11000	11000	60	250	220	30

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.0	15.5	9.0	7.0	5.0	3.5	1.5	1.5	1.5	.5	7.0	6.5
2	16.5	16.0	9.0	7.0	5.5	4.0	1.5	.5	2.0	1.0	6.5	5.5
3	16.0	14.5	9.0	6.5	5.0	3.5	1.0	.5	1.0	.5	6.0	4.5
4	14.5	13.0	10.0	9.0	3.0	1.5	1.0	.5	.5	.0	5.0	3.5
5	13.0	12.0	9.5	8.5	4.0	2.5	.5	.5	.5	.0	6.0	4.5
6	12.5	11.5	8.5	7.0	6.0	4.0	.5	.0	.5	.0	5.5	5.0
7	12.5	11.0	8.5	6.5	7.5	5.5	.5	.0	.5	.0	5.5	4.0
8	13.5	11.5	10.0	8.5	7.5	6.0	.5	.0	1.0	.5	4.5	3.0
9	15.0	13.0	10.5	9.5	9.0	7.0	.5	.0	1.0	.0	4.5	3.5
10	16.5	14.5	10.0	9.0	9.0	7.0	.5	.0	1.5	.5	4.5	3.0
11	16.5	15.0	9.0	7.0	6.5	4.5	.5	.0	2.0	.5	5.0	4.5
12	15.0	12.5	7.0	5.5	4.5	3.5	.5	.0	.5	.0	6.5	4.0
13	12.5	11.0	6.0	4.5	4.5	3.0	.0	.0	.5	.0	6.0	4.0
14	12.5	10.5	6.0	5.0	4.0	3.0	.5	.0	1.0	.0	6.0	4.0
15	12.5	10.0	7.0	6.0	3.0	2.5	.0	.0	2.0	.0	6.0	2.5
16	13.0	10.5	8.0	7.0	4.0	3.0	.5	.0	3.0	1.0	6.0	3.5
17	13.5	11.0	7.0	6.5	4.0	2.5	.5	.0	4.5	3.0	5.0	2.0
18	14.5	13.0	7.0	6.0	3.0	2.0	.5	.0	6.5	4.5	5.0	4.5
19	15.0	14.0	6.0	5.0	3.5	2.0	.5	.0	7.0	6.0	4.0	3.0
20	14.0	12.5	4.5	3.0	2.0	.5	.5	.0	7.0	6.0	3.0	2.0
21	13.0	11.5	3.5	2.5	1.0	.5	.5	.0	7.5	6.0	5.0	2.5
22	12.5	11.0	3.0	1.5	1.0	.5	.5	.0	7.0	5.0	4.0	2.0
23	12.0	10.5	4.0	2.5	.5	.5	1.0	.5	7.5	7.0	3.5	1.5
24	12.0	10.0	8.0	4.0	.5	.5	1.5	.5	6.5	5.5	6.0	3.0
25	11.0	9.5	8.0	6.0	.5	.5	1.5	.5	6.0	4.0	7.0	4.0
26	9.5	8.0	6.0	4.0	.5	.5	2.5	1.0	6.0	4.5	7.5	4.0
27	8.0	6.5	5.5	4.5	.5	.5	4.0	2.0	5.5	3.5	7.0	6.0
28	10.0	8.0	5.5	5.0	.5	.5	3.5	2.5	6.5	4.5	9.0	5.5
29	10.0	9.5	5.0	4.0	1.0	.5	2.5	2.0	---	---	10.5	7.0
30	10.5	9.0	5.0	3.5	1.0	.5	2.0	1.0	---	---	11.0	9.5
31	10.0	8.5	---	---	1.5	1.0	1.0	.5	---	---	12.0	8.5
MONTH	17.0	6.5	10.5	1.5	9.0	.5	4.0	.0	7.5	.0	12.0	1.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	10.0	14.5	13.5	15.0	13.5	18.0	16.5	21.5	19.0		
2	11.0	8.0	13.5	12.0	15.0	13.5	19.0	17.0	21.0	20.0		
3	11.0	8.0	14.0	10.0	15.5	13.5	20.5	18.5	22.5	20.0		
4	12.5	9.5	15.5	11.5	16.5	14.5	21.0	18.5	23.5	21.0		
5	12.5	10.5	16.5	13.5	16.0	14.5	21.5	20.0	24.5	22.0		
6	10.5	8.5	16.5	15.0	15.5	15.0	21.5	18.0	24.0	22.5		
7	10.0	6.0	16.0	13.5	15.0	14.0	20.5	17.5	23.5	22.0		
8	11.5	7.5	16.0	12.0	16.0	14.0	22.0	20.0	23.0	21.0		
9	11.5	10.5	16.0	12.5	16.0	15.0	24.0	21.0	23.0	21.0		
10	12.5	10.5	16.5	14.5	17.0	16.0	24.5	22.5	23.5	21.5		
11	14.5	11.5	16.0	14.0	18.0	16.5	25.0	22.5	23.5	21.5		
12	14.5	13.0	14.0	12.0	19.0	17.5	25.5	23.0	23.5	21.5		
13	16.5	14.0	15.0	11.5	19.0	18.5	25.0	23.0	22.0	20.0		
14	16.0	14.0	17.0	13.5	20.0	19.0	24.0	22.5	22.0	20.0		
15	14.0	11.5	16.5	13.5	21.5	20.0	23.5	21.5	22.5	20.5		
16	13.0	10.0	14.5	12.5	24.0	20.5	22.5	21.0	23.5	21.5		
17	13.0	11.5	15.5	12.5	23.0	21.0	24.0	21.5	22.5	21.5		
18	12.5	10.5	16.0	14.5	22.0	19.0	24.5	22.0	21.5	19.5		
19	12.5	10.0	15.5	12.0	22.0	20.0	25.0	23.0	20.5	19.5		
20	12.0	10.0	12.0	11.5	21.5	21.0	24.5	23.0	21.0	18.5		
21	12.0	8.5	13.0	11.0	23.0	20.0	24.0	22.5	---	---		
22	12.5	9.0	13.5	11.5	23.0	21.0	23.0	20.0	---	---		
23	13.5	11.5	14.5	12.5	23.5	20.5	22.0	20.0	---	---		
24	13.0	9.5	15.5	13.5	24.0	20.5	23.0	20.5	---	---		
25	11.0	9.0	16.5	15.0	23.5	21.0	23.5	22.0	---	---		
26	11.5	9.5	17.0	15.5	22.0	20.0	24.5	22.5	---	---		
27	15.0	11.0	17.0	15.5	22.0	19.0	25.5	23.5	---	---		
28	17.0	14.0	15.5	14.0	22.0	18.5	25.0	23.5	---	---		
29	16.0	14.5	14.0	13.5	22.5	19.0	23.5	21.5	---	---		
30	15.0	13.5	15.5	13.5	22.0	19.5	22.0	20.0	---	---		
31	---	---	15.0	14.0	---	---	21.0	19.5	---	---		
MONTH	17.0	6.0	17.0	10.0	24.0	13.5	25.5	16.5	24.5	18.5		
YEAR	25.5	.0										

GUYANDOTTE RIVER BASIN

03202750 CLEAR FORK AT CLEAR FORK, WV

LOCATION (REVISED).--Lat 37°37'23", long 81°42'27", Wyoming County, Hydrologic Unit 05070101, on left bank 0.2 mi (0.3 km) downstream from Walls Branch, 0.7 mi (1.1 km) upstream from Spratt Branch, southwest of Clear Fork, and at mile 2.6 (4.2 km). Prior to Oct. 27, 1977, at site 0.9 mi (1.4 km) upstream, and prior to Jan. 1, 1981, at site 0.2 mi (0.3 km) upstream.

DRAINAGE AREA (REVISED).--126 mi² (326 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1974 to current year. Prior to October 22, 1974, partial record station.

GAGE.--Water-stage recorder. Altitude of gage is 1,150 ft (351 m), from topographic map. June 28, 1974 to Oct. 22, 1974, non-recording gage; Oct. 23, 1974 to Oct. 26, 1977, digital recorder at site 0.9 mi (1.4 km) upstream at different datum; Oct. 27, 1977 to Dec. 31, 1980, digital recorder at site 0.2 mi (0.3 km) upstream at different datum.

REMARKS.--Water-discharge records good except those for December, January, and February, which are poor.

AVERAGE DISCHARGE.--7 years, 218 ft³/s (6.174 m³/s), 23.87 in/yr (606 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft³/s (280 m³/s) Apr. 5, 1977, gage height, 18.64 ft (5.681 m), site and datum then in use, from rating curve extended above 3,000 ft³/s (85 m³/s) on basis of slope-area measurement of peak flow, minimum, 6.3 ft³/s (0.18 m³/s), Sept. 29, 1981, gage height, 1.50 ft (0.457 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s (45 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 20	0600	1660 47.0	6.17 1.881	June 4	0700	2810 79.6	7.94 2.420
June 2	0800	1780 50.4	6.38 1.945	June 7	0600	*4860 138	10.61 3.234

Minimum discharge, 6.3 ft³/s (0.18 m³/s) Sept. 29, gage height, 1.50 ft (0.457 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	20	80	71	98	419	213	116	793	48	17	8.2
2	23	19	75	72	398	486	302	108	1350	47	15	12
3	22	17	82	65	514	352	305	94	922	34	15	13
4	26	17	80	52	300	270	259	81	2360	29	14	23
5	27	16	76	45	220	1100	388	74	1320	35	12	14
6	26	17	76	50	160	899	535	71	1530	296	39	11
7	22	17	66	58	140	514	405	67	3300	196	60	9.0
8	18	15	61	52	138	339	308	60	890	96	50	12
9	17	14	64	44	112	257	282	53	449	64	43	16
10	17	14	92	36	102	207	446	48	423	48	28	12
11	16	14	96	29	140	173	443	60	863	41	19	9.1
12	14	14	96	36	170	156	352	79	469	34	18	8.1
13	14	11	90	48	194	138	305	58	326	30	21	7.4
14	13	11	80	46	178	123	254	51	244	52	22	7.3
15	12	10	69	46	156	106	221	116	185	45	16	8.3
16	12	10	66	41	140	161	183	128	146	47	24	19
17	12	14	62	34	183	238	311	104	128	61	38	17
18	11	84	55	28	270	238	714	92	111	37	23	12
19	11	92	48	30	320	221	496	503	89	29	16	9.3
20	11	62	45	35	440	196	496	1350	79	27	14	9.3
21	12	51	40	67	500	170	507	608	73	25	12	8.8
22	11	40	35	135	395	158	395	333	62	28	10	7.8
23	11	35	39	173	443	173	308	216	55	21	9.7	7.2
24	11	165	47	165	593	251	299	158	46	17	9.1	7.1
25	23	326	70	149	430	416	248	123	51	15	9.0	6.7
26	78	189	45	161	302	395	207	102	93	15	8.5	6.8
27	44	145	66	246	233	345	180	128	62	15	7.9	6.7
28	33	128	56	276	202	285	158	459	41	38	7.9	6.7
29	31	112	80	210	---	235	142	517	35	53	7.9	6.5
30	27	94	78	158	---	227	130	405	31	35	7.7	6.5
31	22	---	78	110	---	210	---	585	---	23	7.9	---
TOTAL	651	1773	2093	2768	7471	9458	9792	6947	16526	1581	601.6	307.8
MEAN	21.0	59.1	67.5	89.3	267	305	326	224	551	51.0	19.4	10.3
MAX	78	326	96	276	593	1100	714	1350	3300	296	60	23
MIN	11	10	35	28	98	106	130	48	31	15	7.7	6.5
CFSM	.17	.47	.54	.71	2.12	2.42	2.59	1.78	4.37	.41	.15	.08
IN.	.19	.52	.62	.82	2.21	2.79	2.89	2.05	4.88	.47	.18	.09
CAL YR 1980	TOTAL	76367.0	MEAN	209	MAX	3440	MIN	10	CFSM	1.66	IN	22.55
WTR YR 1981	TOTAL	59969.4	MEAN	164	MAX	3300	MIN	6.5	CFSM	1.30	IN	17.71

GUYANDOTTE RIVER BASIN

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03202750 CLEAR FORK AT CLEAR FORK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1974 to October 1976, January 1977 to September 1978.

WATER TEMPERATURES: November 1974 to May 1975, October 1975 to October 1977, December 1977 to May 1981 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: June 1974 to September 1978.

INSTRUMENTATION.--Temperature recorder Nov. 20, 1974 to Oct. 25, 1977, Dec. 13, 1977 to Sept. 30, 1979.

REMARKS.--Prior to Oct. 27, 1977, sampling site was 0.7 mi (1.1 km) upstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 916 micromhos July 27, 1976; minimum daily, 54 micromhos May 19, 1975.

WATER TEMPERATURES: Maximum, 30.5°C July 20, 1977; minimum, 0.0°C on several days during most winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,670 mg/L Oct. 8, 1976; minimum daily mean, 0 mg/L May 27, 28, June 3, 1977.

SEDIMENT LOADS: Maximum daily, 16,900 tons (15,300 metric tons) Apr. 4, 1977; minimum daily, 0 ton (0 metric ton) May 27, 28, June 3, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily observed, 20.0°C May 5; minimum daily observed, 0.5°C several days in January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)
OCT 08...	1525	19	600	--	16.0	--
NOV 14...	1345	11	240	8.2	6.0	--
FEB 17...	1345	179	240	6.8	7.0	--
APR 06...	1725	534	170	6.9	10.0	--
JUN 04...	1250	2380	130	6.6	15.0	--
04...	1800	1830	140	6.6	15.5	--
05...	1120	1320	150	6.8	15.0	--
JUL 22...	1730	27	570	8.4	26.0	220
AUG 11...	1330	19	600	8.1	25.0	--
SEP 23...	1000	7.4	725	7.5	15.5	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
JUL 22...	45	25	24	.7	26	200	9.4	413

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUL 22...	.56	31.1	400	390	10	120	20	100

GUYANDOTTE RIVER BASIN

03202750 CLEAR FORK AT CLEAR FORK, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10.0	6.0	---	2.0	8.0	13.0	15.0				
2	17.0	9.0	5.0	---	3.0	6.0	12.0	14.0				
3	17.0	10.0	5.0	---	1.0	6.0	12.0	---				
4	14.0	11.0	3.0	---	.5	5.0	14.0	18.0				
5	---	10.0	4.0	---	.5	7.0	13.0	20.0				
6	14.0	---	6.0	---	2.0	6.0	10.0	---				
7	---	10.0	8.0	1.0	2.0	6.0	---	17.0				
8	16.0	10.0	9.0	---	3.0	5.0	13.0	18.0				
9	18.0	12.0	9.0	---	2.0	5.0	12.0	19.5				
10	19.0	11.0	9.0	.5	2.0	6.0	12.0	19.0				
11	18.0	---	6.0	.5	---	6.0	14.0	---				
12	---	6.5	---	.5	.5	6.5	15.0	---				
13	14.0	7.0	---	.5	1.0	6.5	17.0	---				
14	13.0	7.0	4.5	1.0	2.0	---	---	---				
15	14.0	8.5	3.0	---	3.0	---	14.0	---				
16	15.0	8.0	4.0	.5	5.0	---	14.0	---				
17	---	7.0	6.0	.5	7.0	---	13.0	---				
18	16.0	---	4.0	.5	8.5	---	13.0	---				
19	16.0	5.5	4.0	1.0	---	---	13.0	---				
20	15.0	5.0	2.0	---	8.0	---	12.0	---				
21	---	4.0	---	1.0	8.0	---	---	---				
22	14.0	3.0	---	1.0	7.5	---	12.0	---				
23	---	---	---	1.0	8.0	---	14.0	---				
24	13.0	---	---	1.5	6.0	---	12.0	---				
25	10.0	---	---	1.0	7.0	---	12.0	---				
26	9.0	---	---	4.5	---	8.0	12.0	---				
27	9.0	---	---	6.0	6.5	8.0	15.0	---				
28	---	6.0	---	4.5	7.0	8.0	18.0	---				
29	10.0	4.0	---	4.0	---	11.0	17.0	---				
30	12.0	5.0	---	3.0	---	---	16.0	---				
31	11.0	---	---	2.0	---	13.0	---	---				
MEAN	14.0	7.5	5.5	1.5	4.0	7.0	13.5	17.5				
WTR YR 1981	MEAN	8.5		MAX	20.0	MIN	.5					

GUYANDOTTE RIVER BASIN

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03202913 R. D. BAILEY LAKE AT JUSTICE, WV

LOCATION.--Lat 37°35'57", long 81°49'13", Mingo and Wyoming Counties, Hydrologic Unit 05070101, on the Guyandotte River about 1.0 mi (1.6 km) northeast of Justice.

DRAINAGE AREA.--535 mi² (1386 km²).

PERIOD OF RECORD.--February to September 1980 (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rock and random fill dam with concrete face. Spillway is uncontrolled, broad-crested saddle, elevation 1,155 ft (352.0 m). Outflow controlled by two 6.0 ft (1.83 m) by 12.0 ft (3.66 m) gates, elevation 938.0 ft (285.9 m), discharging through an 18.0 ft (5.49 m) diameter tunnel in left abutment. Selective withdrawals can be made from five 10.0 ft (3.05 m) by 8.0 ft (2.44 m) intake gates at elevations 966.0 ft (294.4 m), 986.0 ft (300.5 m), 1,000 ft (304.8 m), and two at 1,020 ft (310.9 m). Total level-pool capacity at elevation 1,155 ft (352.0 m), spillway crest, is 203,700 acre-ft (251 hm³) of which 181,700 acre-ft (224 hm³) is controlled storage above elevation 1,012 ft (308.0 m), minimum-pool elevation. This is a multi-purpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 73,680 acre-ft (90.8 hm³) June 8, 1981, elevation, 1,081.66 ft (329.690 m); minimum since initial filling, 354 acre-ft (0.436 hm³) Feb. 4, 1980, elevation, 908.50 ft (276.911 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents 73,680 acre-ft (90.8 hm³) June 8, elevation, 1,081.66 ft (329.690 m); minimum, 20,320 acre-ft (25.1 hm³) Mar. 28, elevation, 1007.93 ft (307.217 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	1035.03	34240	-	-
Oct. 31.....	1029.40	30820	-3420	-56
Nov. 30.....	1012.44	22230	-8590	-144
Dec. 31.....	1012.34	22190	-40	-1
CAL YR 1980			-	-
Jan. 31.....	1012.85	22420	+230	+4
Feb. 28.....	1012.25	22150	-270	-5
Mar. 31.....	1016.01	23850	+1700	+28
Apr. 30.....	1035.06	34260	+10410	+175
May 31.....	1036.37	35100	+840	+14
June 30.....	1035.15	34320	-780	-13
July 31.....	1035.15	34320	0	0
Aug. 31.....	1034.75	34060	-260	-4
Sept. 30.....	1028.57	30340	-3720	-63
WTR YR 1981			-3900	-5

GUYANDOTTE RIVER BASIN

03202915 GUYANDOTTE RIVER BELOW R. D. BAILEY DAM, WV

LOCATION.--Lat 37°35'53", long 81°49'46", Mingo County, Hydrologic Unit 05070101, on right bank, 500 ft (152 m) upstream from Little Huff Creek, 2,500 ft (762 m) (corrected) downstream from R. D. Bailey Dam and 0.5 mi (0.8 km) northeast of Justice, and at river mile 111.6 (179.6 km).

DRAINAGE AREA.--535 mi² (1,390 km²).

PERIOD OF RECORD.--November 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 880.00 ft (268.224 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow regulated since February 1980 by R. D. Bailey Lake (station 03202913) at mile 112 (180 km).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s (476 m³/s) June 22, 1979, gage height, 13.90 ft (4.237 m); minimum discharge, 2.1 ft³/s (0.06 m³/s) Dec. 18, 1978, gage height, 2.05 ft (0.625 m); minimum daily, 38 ft³/s (1.08 m³/s) Nov. 22, 23, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,240 ft³/s (148 m³/s) June 6, gage height, 9.35 ft (2.850 m); minimum daily, 81 ft³/s (2.29 m³/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	220	330	261	450	1170	759	573	3240	407	150	85
2	96	220	233	261	665	1600	1030	507	3970	388	118	85
3	99	217	253	256	1010	1240	931	403	4590	279	124	85
4	122	217	273	250	1050	948	694	352	4650	282	124	85
5	110	217	317	172	909	1580	228	352	4640	282	122	85
6	111	215	250	108	637	2260	103	352	4460	1580	117	89
7	95	215	233	186	529	2290	199	352	3120	2010	174	110
8	81	215	236	242	520	1560	942	330	4560	881	253	209
9	89	239	236	250	446	1010	1010	288	4580	568	233	172
10	96	259	282	201	438	577	1070	270	4580	392	207	184
11	96	253	297	126	388	141	1120	270	4520	366	131	220
12	97	225	313	118	550	512	1080	426	4530	307	122	201
13	97	186	288	113	434	507	948	334	4500	256	225	157
14	96	225	276	153	438	499	948	288	4010	279	199	160
15	96	225	236	172	555	499	897	418	2130	524	110	162
16	126	225	204	172	573	446	749	507	1300	446	103	196
17	179	223	204	153	623	665	1060	516	770	491	176	228
18	179	276	191	126	827	780	2880	362	744	377	150	189
19	179	300	191	124	1130	1380	2460	1380	524	307	131	176
20	179	300	167	122	1320	1810	2230	3670	478	285	113	191
21	176	300	141	181	1420	637	2320	4560	418	201	103	167
22	176	300	103	261	1400	533	1790	3430	422	341	92	172
23	176	297	97	418	1270	604	1380	1470	411	373	88	174
24	176	482	110	478	1690	744	1260	811	334	261	88	150
25	176	920	115	478	1590	1210	1160	632	291	201	88	124
26	194	1020	115	478	1110	1600	886	591	466	176	88	120
27	220	822	115	595	827	1370	785	614	446	153	88	118
28	220	661	115	604	685	729	675	1930	310	259	87	122
29	223	656	352	310	---	106	651	2530	276	261	87	118
30	220	600	438	586	---	418	568	2030	256	212	87	225
31	220	---	300	632	---	854	---	2590	---	172	87	---
TOTAL	4515	10730	7011	8587	23484	30279	32813	33138	69526	13317	4065	4559
MEAN	146	358	226	277	839	977	1094	1069	2318	430	131	152
MAX	223	1020	438	632	1690	2290	2880	4560	4650	2010	253	228
MIN	81	186	97	108	388	106	103	270	256	153	87	85

CAL YR 1980 TOTAL 293457 MEAN 802 MAX 6730 MIN 81 MEAN# 802 CFSM# 1.50 IN# 20.41
WTR YR 1981 TOTAL 242024 MEAN 663 MAX 4650 MIN 81 MEAN# 658 CFSM# 1.23 IN# 16.70

* Adjusted for change in contents in R. D. Bailey Lake.

GUYANDOTTE RIVER BASIN

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03203600 GUYANDOTTE RIVER AT LOGAN, WV

LOCATION.--Lat 37°50'34", long 81°58'34", Logan County, Hydrologic Unit 05070101, on right bank 200 ft (61 m) downstream from Middelburg Bridge at Logan, 0.8 mi (1.3 km) downstream from Dingess Run, 1.1 mi (1.8 km) upstream from Island Creek, and at mile 80.5 (129.5 km).

DRAINAGE AREA.--836 mi² (2,165 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to September 1962 (annual maximum only), October 1962 to current year. Gage-height records collected in this vicinity since November 1915 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 640.00 ft (195.072 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1962, at datum 1.32 ft (0.402 m) lower.

REMARKS.--Water-discharge records good except those for January, which are fair. Flow regulated since February 1980 by R. D. Bailey Lake (station 03202913) at mile 112 (180 km). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--19 years, 1,216 ft³/s (34.44 m³/s), 19.75 in/yr (502 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,000 ft³/s (1,560 m³/s) Mar. 12, 1963, gage height, 34.98 ft (10.662 m), from rating curve extended above 26,000 ft³/s (740 m³/s) on basis of slope-area measurements at gage heights 25.6 ft (7.80 m) and 34.98 ft (10.662 m); minimum, 33 ft³/s (0.93 m³/s) Sept. 17, 1964, gage height, 4.07 ft (1.241 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,100 ft³/s (598 m³/s) June 7, gage height, 20.20 ft (6.157 m); from rating curve extended as explained above; minimum daily, 129 ft³/s (3.65 m³/s) Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	266	606	439	643	1610	1180	776	4950	410	244	133
2	191	270	434	423	1670	2500	1360	770	5030	592	211	146
3	175	262	434	406	2010	1970	1470	633	5850	419	193	167
4	194	262	434	385	1610	1510	1160	531	7740	480	194	225
5	203	262	463	350	1350	3140	1100	508	7610	455	188	161
6	188	259	445	210	1000	3900	1030	505	8380	2180	246	147
7	167	255	375	262	798	3470	829	494	10000	3040	225	145
8	154	255	361	356	798	2480	1180	475	6150	1350	344	183
9	140	259	390	356	722	1660	1570	427	5340	819	316	290
10	142	294	463	356	651	1280	2040	405	6140	626	307	228
11	150	298	525	250	682	601	1850	395	6470	498	245	248
12	146	294	487	210	798	602	1730	478	5370	459	195	270
13	142	244	487	190	917	853	1490	499	5130	388	204	236
14	140	230	434	180	705	747	1400	412	4980	473	312	206
15	142	266	412	255	834	712	1310	584	3150	671	228	298
16	140	266	361	251	852	829	1160	624	1610	778	187	345
17	175	290	333	237	1000	938	1620	611	1260	572	173	297
18	216	493	315	226	1360	1170	4040	586	1040	577	244	296
19	220	463	290	206	1700	1270	3680	1490	816	449	196	265
20	216	406	274	203	2050	2570	3330	5270	727	384	176	235
21	213	385	233	251	2210	1010	3540	5470	618	376	160	255
22	216	370	230	439	2050	836	2820	4610	587	321	153	221
23	213	370	185	621	2360	897	2140	2140	580	479	142	220
24	210	984	210	755	3000	1210	1880	1150	506	388	134	218
25	290	1360	262	714	2560	1660	1780	870	467	299	132	178
26	311	1360	244	697	1790	2100	1370	800	509	274	130	161
27	278	1170	266	781	1340	1940	1180	751	656	252	129	160
28	282	880	244	936	1140	1540	1020	2230	448	259	130	155
29	286	852	247	599	---	533	930	3950	411	490	130	149
30	278	816	636	571	---	518	900	3030	378	346	131	147
31	274	---	487	789	---	1140	---	3800	---	280	137	---
TOTAL	6289	14441	11567	12904	38600	47196	52089	45274	102903	19384	6136	6385
MEAN	203	461	373	416	1379	1522	1736	1460	3430	625	198	213
MAX	311	1360	636	936	3000	3900	4040	5470	10000	3040	344	345
MIN	140	230	185	180	643	518	829	395	378	252	129	133

CAL YR 1980 TOTAL 453907 MEAN 1240 MAX 9600 MIN 140 MEAN# 1240 CFSM# 1.48 IN# 20.20
WTR YR 1981 TOTAL 363168 MEAN 995 MAX 10000 MIN 129 MEAN# 990 CFSM# 1.18 IN# 16.08

* Adjusted for change in contents in R. D. Bailey Lake.

03203600 GUYANDOTTE RIVER AT LOGAN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1975, 1976, 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to September 1976.

WATER TEMPERATURES: October 1975 to September 1976.

SUSPENDED-SEDIMENT DISCHARGE: August 1975 to September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 682 micromhos July 26, 1976; minimum daily, 123 micromhos Feb. 18, 1976.

WATER TEMPERATURES: Maximum daily, 32.0°C July 15, Aug. 9, 1976; minimum daily, -1.0°C Dec. 23-25, 1975.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,750 mg/L Nov. 13, 1975; minimum daily mean, 5 mg/L Nov. 4, 1975, Mar. 8, June 6, 1976.

SEDIMENT LOADS: Maximum daily, 25,600 tons (23,200 metric tons) Nov. 13, 1975; minimum daily, 2.7 tons (2.4 metric tons) July 23, 27, 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT 21...	1225	211	425	8.5	16.0	99	35	.0	23	10	37	44
DEC 01...	1400	548	370	7.5	7.0	85	39	.0	19	9.0	30	--
JAN 21...	1500	265	400	7.3	3.0	110	51	--	25	11	42	--
FEB 25...	1710	2640	200	6.6	7.0	62	41	<.1	14	6.4	15	--
APR 20...	1500	3640	200	7.2	13.0	62	36	.0	14	6.5	14	--
JUN 18...	1305	987	300	7.2	21.0	94	63	.0	21	10	19	--
JUL 20...	1700	375	420	8.6	28.0	110	--	.0	26	12	38	--
AUG 12...	1230	196	500	7.4	27.5	120	53	.0	27	13	46	--
SEP 29...	1430	150	500	8.7	20.5	--	--	--	--	--	--	--

[illegible]

GUYANDOTTE RIVER BASIN

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03203600 GUYANDOTTE RIVER AT LOGAN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LILM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--	360
DEC 01...	<.010	<.03	.49	.030	<.010	<.03	60	<0	<1	<3	<10	740
JAN 21...	--	--	--	--	--	--	--	--	--	--	--	440
FEB 25...	<.010	--	.66	.050	.030	.09	50	1	<1	<3	<10	3100
APR 20...	--	--	--	--	--	--	--	--	--	--	--	3500
JUN 18...	<.010	--	.57	.100	<.010	--	60	<1	<1	<3	<10	810
JUL 20...	--	--	--	--	--	--	--	--	--	--	--	280
AUG 12...	<.010	--	.19	.020	<.010	--	70	1	1	3	10	520

DATE	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS Pb)	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS Zn)
OCT 21...	340	20	--	--	50	30	20	--	--	--	--
DEC 01...	700	38	<10	14	90	20	66	<10	270	<6.0	5
JAN 21...	430	10	--	--	120	10	110	--	--	--	--
FEB 25...	3100	45	<10	7	250	170	80	<10	180	<6.0	15
APR 20...	3500	50	--	--	220	190	30	--	--	--	--
JUN 18...	--	<3	<10	18	100	20	84	<10	360	<6.0	7
JUL 20...	250	30	--	--	40	20	20	--	--	--	--
AUG 12...	500	16	10	23	70	40	28	10	500	6.0	11

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°13'15", long 82°12'10", Lincoln County, Hydrologic Unit 05070102, on right bank at upstream side of highway bridge at Branchland, opposite mouth of Fourmile Creek, and at mile 34.4 (55.3 km). Records include flow of Fourmile Creek.

DRAINAGE AREA.--1,226 mi² (3,175 km²), includes that of Fourmile Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1915 to September 1917, October 1917 to September 1922 (gage heights only), December 1928 to current year. Prior to October 1959, published as Guyandot River at Branchland. Monthly discharge only for July to September 1916, published in WSP 1305.

REVISED RECORDS.--WSP 803: Drainage area. WSP 853: 1918(M). WSP 1335: 1916-17, 1929-30, 1932-35.

GAGE.--Water-stage recorder. Datum of gage is 547.91 ft (167.003 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to June 20, 1932, nonrecording gage and June 20, 1932, to Oct. 24, 1968, water-stage recorder at site 20 ft (6 m) downstream at same datum. Oct. 1, 1942, to Jan. 23, 1969, auxiliary nonrecording gage and since Jan. 24, 1969, auxiliary water-stage recorder 4.0 mi (6.4 km) upstream from base gage at datum 4.99 ft (1.521 m) higher.

REMARKS.--Water-discharge records good except those for January, which are poor. Flow regulated since February 1980 by R. D. Bailey Lake (station 03202913) at mile 112 (180 km). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years (water years 1916-17, 1930-81), 1,652 ft³/s (46.78 m³/s), 18.30 in/yr (465 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,500 ft³/s (1,260 m³/s) Mar. 13, 1963, gage height, 43.83 ft (13.359 m); minimum, 3.6 ft³/s (0.10 m³/s) Oct. 25, 1930, gage height, 2.66 ft (0.811 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood, probably in 1907, reached a stage of about 44 ft (13.4 m), from flood-mark, discharge, 43,500 ft³/s (1,230 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,300 ft³/s (490 m³/s) June 7, gage height, 26.28 ft (8.010 m), backwater; minimum daily, 162 ft³/s (4.59 m³/s) Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	322	993	722	963	2350	1570	1370	5260	602	370	168
2	246	312	761	691	3100	3220	1600	1260	6150	706	322	173
3	246	312	684	660	3860	3480	1810	1160	7060	712	291	188
4	237	307	654	612	2850	2710	1750	974	6720	566	267	220
5	233	307	654	580	2200	2910	1990	838	8770	614	263	322
6	254	307	672	560	1790	5360	1890	798	9350	1450	331	223
7	228	302	612	340	1360	5200	1670	787	13300	4320	434	192
8	212	297	535	450	1230	4340	1390	734	10800	3020	340	185
9	192	297	612	560	1180	3170	1880	694	7580	1430	423	234
10	192	302	761	560	1080	2260	3260	631	6550	972	385	317
11	185	333	781	540	1270	1740	4000	616	7820	790	370	263
12	177	338	781	400	1250	1070	3240	596	7270	662	335	271
13	177	333	741	340	1340	1110	2880	659	6710	596	267	295
14	174	292	697	310	1410	1210	2470	652	6700	542	251	283
15	170	263	629	290	1220	1080	2540	634	5410	668	345	326
16	166	307	606	360	1290	1100	2140	786	3410	777	313	542
17	162	376	528	390	1400	1290	3210	782	2160	803	255	445
18	177	716	474	360	1670	1400	7460	760	1550	674	234	360
19	254	761	442	340	2310	1560	6330	1310	1290	626	275	345
20	250	635	394	320	2860	1980	5280	4750	1040	530	251	308
21	241	549	343	310	3300	2600	5070	6820	946	472	223	287
22	237	501	277	728	3170	1310	4570	6260	842	467	209	291
22	237	501	277	728	3170	1310	4570	6260	842	467	209	291
23	237	474	302	1060	3690	1250	3550	4460	797	417	199	263
24	237	1180	302	1360	4820	1470	3000	2420	771	554	188	255
25	268	2330	360	1060	4510	1840	2600	1490	680	456	176	251
26	412	1840	322	963	3520	2400	2280	1190	656	375	170	234
27	388	1650	317	955	2520	2720	1820	1130	668	340	168	202
28	338	1440	400	1060	1960	2380	1570	1170	726	506	165	202
29	365	1170	382	1090	---	1770	1400	3350	572	732	165	192
30	349	1100	461	735	---	1010	1390	4060	530	644	165	188
31	327	---	835	781	---	1120	---	3690	---	456	165	---
TOTAL	7577	19653	17312	19487	63123	68410	85610	56831	132088	26479	8315	8025
MEAN	244	655	558	629	2254	2207	2854	1833	4403	854	268	268
MAX	412	2330	993	1360	4820	5360	7460	6820	13300	4320	434	542
MIN	162	263	277	290	963	1010	1390	596	530	340	165	168

CAL YR 1980 TOTAL 624554 MEAN 1706 MAX 11300 MIN 162 MEAN# 1706 CFSM# 1.39 IN# 18.95
WTR YR 1981 TOTAL 512910 MEAN 1405 MAX 13300 MIN 162 MEAN# 1400 CFSM# 1.14 IN# 15.51

* Adjusted for change in contents in R. D. Bailey Lake.

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1965, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to November 1976, February to September 1977.

WATER TEMPERATURES: March to December 1976, February to September 1977.

TURBIDITY: October 1975 to December 1976.

SUSPENDED SEDIMENT DISCHARGE: March 1976 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 845 micromhos Aug. 27, 1976; minimum daily, 108 micromhos Feb. 11, 1977.

WATER TEMPERATURES: Maximum daily, 32.0°C July 14, 1977; minimum daily, 1.0°C several days in February 1977.

TURBIDITY: Maximum daily, 200 JTU Mar. 21, Aug. 15, 1976; minimum daily, 1 JTU on several days in 1976.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,250 mg/L Dec. 9, 1976; minimum daily mean, 5 mg/L Oct. 24, 1976 and July 17, 20, 1977.

SEDIMENT LOADS: Maximum daily, 205,000 tons (186,000 metric tons) Apr. 5, 1977; minimum daily, 2.3 tons (2.1 metric tons) July 20, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
OCT											
08...	1030	220	621	7.3	15.0	.50	7.6	.39	42	32	140
NOV											
05...	0935	344	652	7.3	11.5	.50	7.8	.34	178	18	120
DEC											
10...	0930	760	371	7.0	10.5	5.4	7.1	.62	1420	680	93
JAN											
07...	1630	2970	205	7.0	5.5	--	11.0	--	4400	3700	--
29...	1450	1210	343	7.8	4.5	1.6	11.0	.82	930	71	85
FEB											
18...	1315	2330	270	7.3	9.0	4.0	9.5	.83	3000	380	67
MAR											
12...	1330	1070	255	7.1	8.5	2.6	10.0	.75	690	91	71
APR											
29...	1345	1360	290	7.2	18.0	1.4	9.0	.75	1370	218	81
MAY											
21...	1200	7080	195	7.4	14.5	38	9.0	.92	4800	1600	58
JUN											
23...	1330	801	425	7.6	25.5	10	8.1	.85	867	133	120
JUL											
16...	1215	703	500	8.0	25.5	7.0	7.9	--	433	90	140
22...	1000	449	520	7.4	25.0	--	--	--	--	--	140
AUG											
17...	1430	249	558	7.9	24.5	2.5	7.5	.31	2600	119	140
SEP											
02...	1100	173	720	7.4	23.0	1.2	7.4	.46	47	394	170

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AC- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT											
08...	58	--	32	15	65	49	2.4	3.7	84	150	20
NOV											
05...	23	--	28	13	63	52	2.5	3.7	100	130	15
DEC											
10...	42	--	22	9.3	30	40	1.4	2.6	51	91	13
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
29...	34	--	19	9.2	32	44	1.5	2.2	51	82	8.1
FEB											
18...	--	--	15	7.2	22	41	1.2	2.2	30	63	11
MAR											
12...	--	--	17	7.0	18	35	.9	2.0	26	65	8.6
APR											
29...	--	--	18	8.8	23	37	1.1	2.3	36	70	8.3
MAY											
21...	--	--	13	6.1	15	35	.9	1.8	40	48	4.1
JUN											
23...	--	--	28	13	36	38	1.4	3.3	54	110	16
JUL											
16...	--	.0	32	15	50	43	1.8	3.8	83	140	12
22...	--	.0	31	14	56	--	2.1	--	82	130	16
AUG											
17...	--	--	31	14	60	48	2.2	4.4	91	140	19
SEP											
02...	--	.0	38	19	85	51	2.8	4.1	110	190	32

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
OCT 08...	.2	4.7	358	342	.49	213	.29	.30	.050	.19	.04
NOV 05...	.2	1.3	343	315	.47	319	.15	.16	.020	.17	.17
DEC 10...	.1	6.1	218	207	.30	447	.49	.50	.050	.16	.07
JAN 29...	.1	4.7	196	190	.27	640	.51	.52	.060	.31	.24
FEB 18...	<.1	5.5	151	147	.21	950	.58	.58	.070	.31	.18
MAR 12...	<.1	7.4	146	144	.20	422	.61	.63	.040	.13	.08
APR 29...	<.1	7.9	179	162	.24	657	.45	.46	.060	.30	.24
MAY 21...	<.1	7.3	113	122	.15	2160	.60	.59	.080	.60	.25
JUN 23...	.1	8.6	272	250	.37	588	.52	.53	.050	.31	--
JUL 16...	.1	3.0	344	307	.47	653	.27	.26	<.010	--	--
22...	--	--	314	--	.43	381	--	--	--	--	--
AUG 17...	.2	3.3	355	327	.48	239	.15	.14	.020	.25	.15
SEP 02...	.2	3.0	444	438	.60	207	.14	.15	.020	.28	.29

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)
OCT 08...	.24	.15	.09	.53	2.3	.020	.010	--	--	--
NOV 05...	.19	.01	.18	.34	1.5	.020	.010	--	--	--
DEC 10...	.21	.09	.12	.70	3.1	.050	.010	1	0	1
JAN 29...	.37	.07	.30	.88	3.9	.050	.010	--	--	--
FEB 18...	.38	.13	.25	.96	4.3	.020	<.010	--	--	--
MAR 12...	.17	.05	.12	.78	3.5	.030	.030	0	0	0
APR 29...	.36	.07	.29	.81	3.6	.040	<.010	--	--	--
MAY 21...	.68	.35	.33	1.3	5.7	.120	<.010	--	--	--
JUN 23...	.36	.04	.32	.88	3.9	<.010	<.010	1	0	1
JUL 16...	.39	--	<.10	.66	2.9	.020	<.010	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
AUG 17...	.27	.10	.17	.42	1.9	.040	.040	--	--	--
SEP 02...	.30	.00	.31	.46	1.9	.030	.030	2	1	1

GUYANDOTTE RIVER BASIN

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03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM, TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM, DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)
OCT 08...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	100	50	50	0	0	4	100	80	20	2	0	2
MAR 12...	100	0	100	0	0	0	20	10	10	0	0	0
JUN 23...	100	20	80	1	0	1	10	--	<10	6	5	1
JUL 22...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	100	0	100	<1	--	<1	10	0	10	1	--	<1

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)
OCT 08...	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	5	4	1	1700	1700	30	3	3	0	120	80
MAR 12...	3	2	1	1400	1400	20	12	10	2	100	50
JUN 23...	9	0	9	900	890	10	6	5	1	50	20
JUL 22...	--	--	--	470	450	20	--	--	--	70	60
SEP 02...	2	0	2	340	310	30	1	0	1	80	20

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY, TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY, SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY, DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)
OCT 08...	--	--	--	--	--	--	--	--	--	--	0
DEC 10...	40	<.1	--	<.1	6	6	0	0	0	0	0
MAR 12...	50	<.1	--	<.1	8	5	3	0	0	0	1
JUN 23...	30	.2	.0	.2	7	0	7	1	0	1	0
JUL 22...	10	--	--	--	--	--	--	--	--	--	--
SEP 02...	60	.6	.1	.5	2	0	2	1	--	<1	<1

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SILVER, SUS- PENDE REC OV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL REC OV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE REC OV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. # FINER THAN .062 MM
OCT 08...	--	--	--	--	--	2.3	--	--	--	89	53	50
NOV 05...	--	--	--	--	--	2.0	--	--	190	43	40	95
DEC 10...	0	0	40	40	0	--	1.7	.9	--	144	41	93
JAN 29...	--	--	--	--	--	1.9	--	--	--	91	297	53
FEB 18...	--	--	--	--	--	3.0	--	--	--	171	1080	49
MAR 12...	1	0	50	40	10	--	1.2	.5	490	82	236	48
APR 29...	--	--	--	--	--	1.2	--	--	--	59	216	67
MAY 21...	--	--	--	--	--	.2	--	--	5200	380	7260	39
JUN 23...	0	0	30	20	7	--	2.1	--	1200	32	69	31
JUL 16...	--	--	--	--	--	2.0	--	--	3600	36	68	24
JUL 22...	--	--	--	--	--	--	--	--	--	18	23	--
AUG 17...	--	--	--	--	--	1.8	--	--	3000	17	11	59
SEP 02...	--	<1	30	--	<10	--	2.0	.2	1700	10	4.7	51

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON								
DATE TIME	NOV 5, 80 0935	MAR 12, 81 1330	MAY 21, 81 1200	JUN 23, 81 1330				
TOTAL CELLS/ML	190	490	5200	1200				
DIVERSITY: DIVISION	0.0	0.7	1.0	0.8				
...CLASS	0.0	0.7	1.0	0.8				
...ORDER	1.0	2.6	2.1	1.3				
...FAMILY	1.0	3.0	2.5	1.3				
...GENUS	1.0	3.0	3.2	1.9				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
...BACILLARIOPHYCEAE								
...ACHNANTHALES								
...ACHNANTHACEAE								
...ACHNANTHES	--	-	--	-	200	4	--	-
...RHODIOSIPHENIA	--	-	28	6	84	2	--	-
...BACILLARIALES								
...NITZSCHACEAE								
...NITZSCHIA	120*	60	84*	17	620	12	180	15
...EUPODISCALES								
...COSCINOIDISCAEAE								
...CYCLOTELLA	--	-	--	-	28	1	640*	53
...MFLOSIHA	--	-	140*	29	250	5	190*	16
...FRAGILARIACEAE								
...DIATOMA	--	-	--	-	28	1	--	-
...SYNEDRA	--	-	14	3	140	3	--	-
...AVICULALES								
...CYMBELLACEAE								
...CYMBELLA	--	-	14	3	730	14	--	-
...GOMPHONEMACEAE								
...GOMPHONEMA	--	-	28	6	56	1	--	-
...NAVICULACEAE								
...NAVICULA	77*	40	98*	20	760	15	--	-
...SURIRELLALES								
...SURIRELLACEAE								
...SURIRELLA	--	-	14	3	28	1	--	-
CHLOROPHYTA (GREEN ALGAE)								
...CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHLOROCOCCACEAE								
...TETRAEDRON	--	-	14	3	--	-	--	-
...MICHAETINIACEAE								
...MICHAETINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
...ANKISTRODESMUS	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	14	3	--	-	--	-
...SELENASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
...COFLASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMUS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	-	14	3	28	1	13	1
...ZYGNEMATALES								
...DESMIDIACEAE								
...EUASTHUM	--	-	--	-	--	-	--	-
CHRYSPHYTA								
...CHRYSPHYCEAE								
...OCHROMONADALES								
...OCHROMONADACEAE								
...OCHROMONAS	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
...CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCCHRYSIDACEAE								
...CHROOMONAS	--	-	--	-	--	-	13	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
...CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
...A. CYSTIS	--	-	28	6	--	-	180	15
...OSCILLATORIALES								
...OSCILLATORIAEAE								
...LYNGBYA	--	-	--	-	420	8	--	-
...OSCILLATORIA	--	-	--	-	1100*	22	--	-
...FORMIDIUM	--	-	--	-	700	14	--	-
EUGLENOPHYTA (EUGLENIDS)								
...EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
...EUGLENA	--	-	--	-	--	-	--	-
...THACHELOMONAS	--	-	--	-	--	-	--	-

NOTE: * - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%

° - OBSERVED ORGANISM: MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2*

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 16, 81 1215	AUG 17, 81 1430	SEP 2, 81 1100			
TOTAL CELLS/ML	3600	3000	1700			
DIVERSITY: DIVISION	1.2	0.4	1.8			
...CLASS	1.2	0.4	1.8			
...ORDER	1.4	1.5	2.2			
...FAMILY	2.0	1.5	2.2			
...GENUS	2.2	1.7	2.7			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...ACHNANTHALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....RHOICOSPHEIDIA	--	-	--	-	--	-
..BACILLARIALES						
...NITZSCHIAEAE						
....NITZSCHIA	96	3	140	5	42	2
...EUPODISCALES						
...COSCINODISCAEAE						
....CYCLOTELLA	660#	19	1400#	45	660#	39
....PELOSIRA	48	1	58	2	250	15
..FRAGILARIALES						
...FRAGILARIAEAE						
....DIATOMA	--	-	--	-	--	-
....SYNEDRA	290	8	580#	19	42	2
..NAVICULALES						
...CYMBELLAEAE						
....CYMBELLA	--	-	24	1	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	32	1	54	2	--	-
..SURIPELLALES						
...SURIPELLACEAE						
....SURIPELLA	--	-	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....TETRAEDRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	*	0	--	-	--	-
...DOCYSTACEAE						
....ANKISTROUESMUS	*	0	--	-	28	2
....KIRCHNERIELLA	--	-	29	1	56	3
...DOCYSTIS	64	2	--	-	14	1
...SELENASTRUM	32	1	--	-	--	-
...SCENEDESMACEAE						
....COELASTRUM	2000#	56	--	-	--	-
....SCENEDESMUS	64	2	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	64	2	120	4	56	3
..ZYGNEMATALES						
...DESMIDIACEAE						
....ELIASTRUM	*	0	--	-	--	-
CHRYSOPHYTA						
..CHRYSOPHYCEAE						
...OCHROMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	--	-	110	7
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROMONAS	32	1	--	-	150	9
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
...CHROCOCCACEAE						
....ACIACYSTIS	110	3	--	-	270#	16
...OSCILLATORIALES						
...OSCILLATORIAEAE						
....LYNGBYA	--	-	--	-	--	-
...OSCILLATORIA	--	-	--	-	--	-
...PHORMIDIUM	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	29	1	--	-
...TRACHELONAS	--	-	--	-	14	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 1%.

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

OHIO RIVER MAIN STEM

359

03206000 OHIO RIVER AT HUNTINGTON, WV

LOCATION.--Lat 38°24'48", long 82°30'02", Lawrence County, Ohio, Hydrologic Unit 05090101, on right bank at lock 28 at Sybene, Ohio, 0.1 mi (0.2 km) upstream from Fourpole Creek, 3.0 mi (4.8 km) downstream from Symmes Creek, and at mile 311.6 (501.4 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--55,900 mi² (144,800 km²), approximately.

PERIOD OF RECORD.--August 1934 to current year (since October 1968, no low-flow records). Gage-height records collected at same site since 1913 are in reports of National Weather Service.

REVISED RECORDS.--WSP 853: 1934, 1936. WSP 893: Drainage area. WSP 1305: 1935(M), 1939(M).

GAGE.--Water-stage recorder. Datum of gage is 490.263 ft (149.432 m) Sandy Hook datum. Prior to July 8, 1942, at datum 1.737 ft (0.529 m) higher. Auxiliary water-stage recorder 4.7 mi (7.6 km) upstream from base gage at datum 490.102 ft (149.383 m) Sandy Hook datum.

REMARKS.--Records good except those for period of no-gage-height record, Feb. 23-25, which are poor. Discharges less than 50,000 ft³/s (1,420 m³/s) not published. Flow partly regulated by locks, dams, and reservoirs upstream. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--34 years (water years 1935-68), 75,240 ft³/s (2,131 m³/s), 18.28 in/yr (464 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654,000 ft³/s (18,500 m³/s) Jan. 28, 1937; maximum gage height, 69.45 ft (21.168 m) Jan. 27, 1937, present datum; minimum daily discharge determined, 3,200 ft³/s (90.6 m³/s) Sept. 6, 13, Nov. 2, 1934, Oct. 3, 1935, Oct. 1, 1937.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 340,000 ft³/s (9,630 m³/s) Feb. 24, maximum discharge occurred during period of no gage-height record at auxiliary gage Feb. 23-25, discharge not determined; maximum gage height, 42.63 ft (12.994 m) Feb. 24; minimum discharge, not determined; minimum gage height, 24.46 ft (7.455 m) July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	78300	---	---	200000	86400	174000	147000	64800	---	---
2	---	---	60400	---	141000	210000	99400	195000	156000	81300	---	---
3	---	---	59000	---	196000	206000	87100	178000	143000	67900	---	---
4	---	---	74600	---	174000	179000	79200	158000	143000	---	---	---
5	---	---	85800	---	127000	172000	82800	131000	180000	50200	---	69700
6	---	---	72400	---	91900	194000	116000	112000	221000	51000	---	75900
7	---	---	55700	---	74000	176000	116000	106000	285000	53900	---	70300
8	---	---	56900	---	70000	145000	99200	106000	295000	57700	---	---
9	---	---	60700	---	65000	116000	82000	87300	255000	---	---	---
10	---	---	97900	---	53900	99400	78700	65000	197000	---	---	---
11	---	---	110000	---	65700	86400	73800	59000	245000	---	---	---
12	---	---	111000	---	109000	97800	92200	58900	248000	---	---	---
13	---	---	93600	---	121000	75400	186000	107000	194000	---	---	---
14	---	---	82200	---	116000	64600	231000	112000	193000	---	---	---
15	---	---	76600	---	99800	66400	214000	108000	227000	---	---	---
16	---	---	61200	---	96500	65700	189000	133000	195000	---	---	---
17	---	---	---	---	114000	76100	172000	148000	164000	---	---	---
18	---	---	---	---	157000	81300	197000	133000	154000	---	---	---
19	---	---	---	---	178000	74800	194000	123000	128000	---	---	---
20	---	54700	---	---	203000	63800	189000	165000	108000	---	---	---
21	---	---	---	---	243000	64300	170000	218000	91300	---	---	---
22	---	---	---	---	302000	---	150000	192000	109000	---	---	---
23	---	---	---	---	330000	---	137000	137000	118000	---	---	---
24	---	---	---	---	340000	---	127000	106000	115000	---	---	---
25	---	55000	---	---	330000	60900	138000	68300	91100	---	---	---
26	---	88800	---	---	301000	64900	138000	---	99400	---	---	---
27	50000	93900	---	---	262000	67200	127000	---	109000	---	---	---
28	57800	100000	---	70400	214000	93800	118000	59600	85300	---	---	---
29	---	93200	---	72300	---	114000	108000	77600	77700	75400	---	---
30	---	84100	---	56600	---	109000	123000	132000	61300	56500	---	---
31	---	---	---	---	---	92800	---	164000	---	53100	---	---
TOTAL	---	---	---	---	---	---	4000800	---	4835100	---	---	---
MEAN	---	---	---	---	---	---	133400	---	161200	---	---	---
MAX	---	---	---	---	---	---	231000	---	295000	---	---	---
MIN	---	---	---	---	---	---	73800	---	61300	---	---	---

TWELVEPOLE CREEK BASIN

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW

LOCATION.--Lat 38°01'02", long 82°17'46", Wayne County, Hydrologic Unit 05090102, on left bank 0.2 mi (0.3 km) upstream from Maynard Branch, 0.9 mi (1.4 km) downstream from McComas Branch, 1.5 mi (2.4 km) upstream from Devilstrace Branch, and 7.5 mi (12.1 km) east of Dunlow.

DRAINAGE AREA.--38.2 mi² (98.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 710.00 ft (216.408 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 22, 1964, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--17 years, 55.3 ft³/s (1.566 m³/s), 19.66 in/yr (499 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,040 ft³/s (143 m³/s) Dec. 9, 1978, gage height, 15.84 ft (4.828 m), from rating curve extended above 1,300 ft³/s (37 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.01 ft³/s (<0.001 m³/s) July 2-13, 1966, Sept. 18-28, 1967, Sept. 8, 9, 1973; minimum gage height, 4.44 ft (1.353 m) Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 840 ft³/s (24 m³/s) and maximum(*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 2	0700	*1680 47.6	11.37 3.466	June 6	0130	940 26.6	9.60 2.926

Minimum discharge, 0.62 ft³/s (0.02 m³/s) Sept. 30; minimum gage height, 4.61 ft (1.405 m) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.1	17	27	17	144	43	39	248	10	10	1.6
2	2.0	1.9	17	26	383	116	37	37	1010	8.0	8.0	4.6
3	2.3	1.7	24	20	170	87	32	32	274	5.6	7.1	2.7
4	2.4	1.9	19	13	63	73	29	29	398	5.6	5.6	3.4
5	1.9	2.1	19	10	33	140	105	25	569	9.8	4.4	5.6
6	1.8	1.8	17	14	29	137	91	22	405	116	35	2.3
7	1.5	1.6	16	16	29	107	71	21	539	71	18	1.4
8	1.3	1.5	14	15	36	80	57	16	208	32	15	1.7
9	1.2	1.8	24	13	33	61	55	14	104	21	11	3.8
10	1.2	1.4	41	12	36	48	162	13	120	21	8.3	2.4
11	1.1	1.4	32	11	80	40	218	14	182	24	6.9	1.3
12	1.2	1.3	27	10	70	33	159	13	143	14	8.6	1.1
13	1.2	1.3	24	9.2	62	29	141	11	338	12	5.9	.92
14	1.2	1.4	19	9.4	57	25	117	9.8	272	13	4.4	1.1
15	1.2	1.5	16	10	58	21	122	12	120	11	3.6	22
16	1.1	1.7	16	9.4	43	27	92	9.8	61	8.3	4.2	27
17	1.2	7.4	14	8.4	61	25	385	8.3	36	7.4	3.4	7.4
18	1.1	36	13	7.8	81	25	356	9.8	24	6.6	2.4	4.2
19	1.3	16	12	7.4	86	24	204	132	18	5.6	2.0	2.9
20	1.1	11	11	7.4	110	22	171	310	16	5.1	1.8	2.1
21	1.0	8.3	9.2	25	95	21	126	149	13	5.4	1.5	1.7
22	.92	6.6	7.7	43	79	19	95	86	12	5.1	1.5	1.3
23	.85	5.9	10	45	222	29	80	53	9.8	4.2	1.3	1.1
24	.85	152	15	42	210	39	65	36	8.0	3.4	1.3	.96
25	5.9	95	15	36	135	38	48	27	11	3.0	1.2	.92
26	8.0	43	12	32	93	36	38	24	13	2.7	1.2	.89
27	3.0	33	13	28	68	35	32	24	6.9	5.9	1.1	.81
28	3.6	29	13	24	65	31	27	62	5.1	50	1.1	.73
29	3.2	24	14	21	---	28	31	63	4.4	61	1.0	.66
30	2.7	20	21	17	---	47	37	83	4.2	24	1.4	.62
31	2.4	---	23	14	---	47	---	248	---	14	1.4	---
TOTAL	61.62	513.6	544.9	583.0	2504	1634	3226	1632.7	5172.4	585.7	179.6	109.21
MEAN	1.99	17.1	17.6	18.8	89.4	52.7	108	52.7	172	18.9	5.79	3.64
MAX	8.0	152	41	45	383	144	385	310	1010	116	35	27
MIN	.85	1.3	7.7	7.4	17	19	27	8.3	4.2	2.7	1.0	.62
CFSM	.05	.45	.46	.49	2.34	1.38	2.83	1.38	4.50	.50	.15	.10
IN.	.06	.50	.53	.57	2.44	1.59	3.14	1.59	5.04	.57	.17	.11
CAL YR 1980	TOTAL	14046.24	MEAN	38.4	MAX	485	MIN	.85	CFSM	1.01	IN	13.68
WTR YR 1981	TOTAL	16746.73	MEAN	45.9	MAX	1010	MIN	.62	CFSM	1.20	IN	16.31

TWELVEPOLE CREEK BASIN

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-1976, 1980.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974, February to December 1975, February to March 1976.

WATER TEMPERATURES: March to October 1974, February 1975 to September 1975, November to December 1975, February to March 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 220 micromhos Mar. 14, 1975; minimum daily, 17 micromhos Apr. 28, 1975.

WATER TEMPERATURES: Maximum daily, 27.0°C Sept. 3, 1975; minimum daily, 0.0°C Mar. 24, 25, 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
21...	1935	1.0	115	7.0	13.5	9.1	.18	K20	150	34	2
23...	1455	.80	125	6.5	13.5	--	--	--	--	--	--
DEC											
05...	1250	19	95	6.2	4.5	--	--	--	--	--	--
JAN											
06...	1735	14	67	6.6	1.0	13.6	.32	K66	140	27	6
15...	1135	10	230	6.3	.0	--	--	--	--	--	--
FEB											
20...	1515	111	54	6.6	8.5	12.2	.98	450	560	21	--
MAR											
03...	1220	85	80	5.8	6.0	--	--	--	--	--	--
APR											
14...	0910	117	53	6.6	15.5	9.2	.54	590	280	18	13
23...	1230	76	100	6.0	9.0	--	--	--	--	--	--
JUN											
10...	1325	75	59	6.7	20.5	8.7	.38	1900	3800	19	12
25...	1705	6.3	85	6.1	26.0	--	--	--	--	--	--
AUG											
14...	1320	4.1	105	6.3	22.0	--	--	--	--	--	--
SEP											
30...	0825	.60	115	6.9	14.0	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

TWELVEPOLE CREEK BASIN

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 21...	7.6	3.7	6.2	26	.5	3.0	32	9.7	7.8	.0	5.4
JAN 06...	5.6	3.2	3.3	20	.3	1.5	15	17	2.8	.0	9.0
FEB 20...	4.2	2.5	1.6	--	.2	--	7	15	1.6	<.1	8.4
APR 14...	3.4	2.4	1.6	15	.2	1.5	7	14	1.5	<.1	8.3
JUN 10...	3.7	2.4	2.0	17	.2	1.4	10	13	1.7	<.1	8.7

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 21...	66	63	.18	.01	.14	.17	.010	100	90	10
JAN 06...	52	55	1.9	.25	.00	.07	.010	--	--	100
FEB 20...	43	--	12.9	.49	.38	.49	<.010	330	300	30
APR 14...	48	36	15.2	.16	.34	.38	.020	--	--	0
JUN 10...	42	37	8.5	.15	.21	.23	.030	110	100	10

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- SOLVED (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)
OCT 21...	0	0	0	10	0	590	350	240	0	0
JAN 06...	--	--	--	--	--	--	--	120	--	--
FEB 20...	0	0	2	10	0	880	810	70	5	2
APR 14...	--	--	--	--	--	--	--	90	--	--
JUN 10...	1	0	2	10	0	670	580	90	1	1

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	0	80	30	50	<.1	--	<.1	10	8	2
JAN 06...	--	--	--	60	--	--	--	--	--	--
FEB 20...	3	50	20	30	.1	.0	.1	20	--	<4
APR 14...	--	--	--	30	--	--	--	--	--	--
JUN 10...	0	30	0	30	<.1	--	.1	20	10	10

TWELVEPOLE CREEK BASIN

363

03206780 EAST LYNN LAKE NEAR EAST LYNN, WV

LOCATION.--Lat 38°08'43", long 82°22'58", Wayne County, Hydrologic Unit 05090102, at East Lynn Dam on East Fork Twelvepole Creek, 0.1 mi (0.2 km) upstream from Laurel Creek, 1.5 mi (2.4 km) south of East Lynn, and at mile 42.0 (67.6 km).

DRAINAGE AREA.--133 mi² (344 km²).

PERIOD OF RECORD.--March 1972 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by rockfill dam with impervious core, completed in 1972; closure of dam was made and storage began in March 1972. Spillway is uncontrolled saddle spillway, crest elevation, 701.0 ft (213.66 m). Flow is controlled by one 2.5 ft (0.76 m) diameter bypass valve and three 5.67 ft (1.728 m) wide by 10.0 ft (3.05 m) high gates. Total level-pool capacity at elevation 701.0 ft (213.66 m), spillway crest, is 82,500 acre-ft (102 hm³) of which 70,790 acre-ft (87.3 hm³) is controlled storage above elevation 656.0 ft (199.95 m), minimum-pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 48,230 acre-ft (59.5 hm³) Dec. 12, 1978, elevation, 684.32 ft (208.581 m); minimum since first filling, 10,050 acre-ft (12.4 hm³) Feb. 25, 1974, elevation, 653.90 ft (199.309 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,830 acre-ft (26.9 hm³) Apr. 18, elevation, 666.31 ft (203.091 m); minimum, 11,820 acre-ft (14.4 hm³) Jan. 13, 14, elevation, 656.13 ft (199.988 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	662.29	17480	-	-
Oct. 31.....	661.70	16890	-590	-10
Nov. 30.....	660.19	15420	-1470	-25
Dec. 31.....	656.73	12320	-3100	-50
CAL YR 1980	-	-	+500	+1
Jan. 31.....	656.78	12360	+40	+1
Feb. 28.....	656.64	12240	-120	-2
Mar. 31.....	658.61	13960	+1720	+28
Apr. 30.....	662.64	17840	+3880	+65
May 31.....	663.07	18280	+440	+7
June 30.....	662.38	17580	-700	-12
July 31.....	662.78	17980	+400	+7
Aug. 31.....	662.36	17550	-430	-7
Sept. 30.....	662.01	17200	-350	-6
WTR YR 1981			-280	0

TWELVEPOLE CREEK BASIN

03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV

LOCATION.--Lat 38°08'52", long 82°23'00", Wayne County, Hydrologic Unit 05090102, on left bank 800 ft (244 m) downstream from Laurel Creek, 1,700 ft (518 m) downstream from East Lynn Dam, 1.4 mi (2.3 km) south of East Lynn, and at mile 41.7 (67.1 km).

DRAINAGE AREA.--138 mi² (357 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1962 to current year. Prior to October 1967 published as "near East Lynn."

GAGE.--Water-stage recorder. Datum of gage is 600.00 ft (182.880 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1967, water-stage recorder at site 0.7 mi (1.1 km) downstream at same datum.

REMARKS.--Water-discharge records good below 300 ft³/s (8.50 m³/s) and fair above. Flow regulated since March 1972 by East Lynn Lake (station 03206780).

AVERAGE DISCHARGE.--19 years, 177 ft³/s (5.013 m³/s), 17.42 in/yr (442 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,960 ft³/s (140 m³/s) Mar. 12, 1968, gage height, 31.50 ft (9.601 m), from floodmarks; no flow Sept. 10-27, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since at least 1913, about 13,000 ft³/s (368 m³/s) Feb. 3, 1939, gage height, about 37 ft (11.3 m), from floodmarks, from rating curve based on conveyance-slope study. Flood of Feb. 28, 1962, reached a stage of 36.25 ft (11.049 m), from floodmarks, discharge, about 12,000 ft³/s (340 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,170 ft³/s (61.5 m³/s) Apr. 18, gage height, 21.28 ft (6.486 m), backwater; minimum daily, 8.4 ft³/s (0.24 m³/s) Oct. 11-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	147	111	104	43	420	19	77	389	17	21	11
2	15	125	110	127	520	482	18	201	422	16	21	11
3	15	88	108	125	864	387	18	199	897	15	21	11
4	15	68	271	124	837	347	18	141	867	15	14	11
5	15	66	276	69	576	529	62	119	990	16	11	11
6	15	64	240	41	264	583	31	62	1490	18	11	11
7	15	44	240	42	229	534	26	44	1650	44	11	11
8	12	34	238	41	231	390	49	43	1300	58	11	11
9	9.3	34	251	83	229	260	219	28	558	58	11	11
10	8.4	34	246	101	231	147	534	22	241	57	11	11
11	8.4	18	240	101	251	114	682	22	177	57	11	11
12	8.4	9.0	238	59	240	112	664	27	381	29	11	11
13	8.4	8.7	234	40	314	114	660	30	951	17	11	11
14	8.4	8.7	186	23	352	111	662	29	1500	17	11	11
15	8.4	8.7	116	16	264	111	662	29	1020	17	11	11
16	8.4	8.7	65	15	229	115	472	29	290	17	11	12
17	8.4	23	40	15	234	78	845	29	181	17	11	11
18	9.0	130	40	15	236	86	1310	26	125	17	11	11
19	9.6	193	40	15	314	64	1270	119	60	17	11	11
20	9.6	188	39	15	355	63	1270	605	40	17	11	11
21	9.6	184	39	24	349	62	1060	881	40	17	11	11
22	9.6	182	39	94	347	62	620	671	41	17	11	11
23	9.6	177	39	124	437	118	328	406	39	17	11	11
24	9.6	199	32	122	634	144	242	229	23	17	11	11
25	13	314	20	121	616	144	197	181	16	17	11	11
26	11	253	20	121	573	142	118	105	15	17	11	11
27	11	68	20	121	412	142	118	118	15	17	11	11
28	11	67	20	88	264	121	117	97	15	16	11	11
29	12	61	20	24	---	94	117	80	15	69	11	11
30	11	97	24	22	---	49	121	113	15	96	11	11
31	121	---	38	22	---	19	---	243	---	46	11	---
TOTAL	456.1	2901.8	3640	2054	10445	6144	12529	5005	13763	882	374	331
MEAN	14.7	96.7	117	66.3	373	198	418	161	459	28.5	12.1	11.0
MAX	121	314	276	127	864	583	1310	881	1650	96	21	12
MIN	8.4	8.7	20	15	43	19	18	22	15	15	11	11

CAL YR 1980 TOTAL 51010.8 MEAN 139 MAX 1340 MIN 7.9 MEAN# 140 CFSM# 1.01 IN# 13.81
WTR YR 1981 TOTAL 58524.9 MEAN 160 MAX 1650 MIN 8.4 MEAN# 160 CFSM# 1.16 IN# 15.74

* Adjusted for change in contents in East Lynn Lake.

TWELVEPOLE CREEK BASIN

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03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
22...	1400	9.6	74	6.5	17.0	8.7	.33	K17	12	24	2
23...	1555	9.9	--	--	16.0	--	--	--	--	--	--
DEC											
18...	1250	37	33	6.4	7.0	--	--	--	--	--	--
JAN											
07...	1310	42	64	6.8	2.5	13.1	.44	K2	K2	28	9
30...	1515	22	83	6.0	4.5	12.2	--	--	--	--	--
FEB											
24...	1145	700	58	6.6	5.0	12.8	.64	K18	16	25	--
MAR											
13...	0830	108	65	5.8	6.0	11.5	--	--	--	--	--
APR											
13...	1615	657	62	6.7	15.0	10.4	.55	130	19	20	17
29...	0955	117	67	5.9	13.0	--	--	--	--	--	--
JUN											
11...	1000	175	54	6.7	18.5	9.1	.37	K120	240	20	15
17...	1500	182	60	6.9	20.5	--	--	--	--	--	--
AUG											
18...	0900	11	58	5.7	22.0	7.0	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT										
22...	5.1	2.7	1.4	10	.1	1.7	20	14	1.5	.0
JAN										
07...	6.0	3.1	1.9	12	.2	1.8	16	16	1.7	.0
FEB										
24...	5.5	2.8	1.4	--	.1	--	10	16	1.3	<.1
APR										
13...	3.9	2.6	1.6	14	.2	1.4	6	17	1.7	<.1
JUN										
11...	3.9	2.4	1.4	12	.1	1.6	8	14	1.3	<.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)
OCT										
22...	4.3	46	46	1.1	.04	.07	.29	.010	190	170
JAN										
07...	3.8	47	46	5.3	.23	.19	.21	.000	--	--
FEB										
24...	6.8	48	--	90.7	.39	.12	.25	<.010	240	220
APR										
13...	6.6	37	37	65.6	.26	.16	.29	.020	--	--
JUN										
11...	7.0	33	35	15.6	.10	.21	.27	.040	460	430

K Results based on colony count outside the acceptable range (non-ideal colony count).

TWELVEPOLE CREEK BASIN

03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT 22...	20	1	1	0	10	0	2400	1800	580	5
JAN 07...	200	--	--	--	--	--	--	--	140	--
FEB 24...	20	1	--	<1	20	0	650	540	110	5
APR 13...	100	--	--	--	--	--	--	--	110	--
JUN 11...	30	1	0	2	10	0	1200	1100	60	4

DATE	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PR)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	5	0	920	0	1000	<.1	<.1	20	20	2
JAN 07...	--	--	--	--	160	--	--	--	--	--
FEB 24...	5	0	240	30	210	<.1	<.1	10	5	5
APR 13...	--	--	--	--	130	--	--	--	--	--
JUN 11...	4	0	120	40	80	<.1	<.1	20	0	20

TWELVEPOLE CREEK BASIN

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03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV

LOCATION.--Lat 38°10'52", long 82°28'33", Wayne County, Hydrologic Unit 05090102, on left bank 200 ft (61 m) downstream from Rocky Hollow, 0.4 mi (0.6 km) downstream from Trace Fork, 3 mi (5 km) southwest of Wayne, and at river mile 4.3 (6.9 km).

DRAINAGE AREA.--108 mi² (280 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1979 to June 1981 (discontinued). Records for August and September 1979 are in the files of the the U.S. Geological Survey and are not published in this report.

GAGE.--Water-stage recorder. Datum of gage is 617.26 ft (188.141 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records for 1980 water year fair except those below 25 ft³/s (0.71 m³/s), which are poor. Water-discharge records for period October 1980 to June 1981 fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,010 ft³/s (56.9 m³/s) June 12, 1981, gage height, 12.02 ft (3.664 m), from rating curve extended above 800 ft³/s (23 m³/s); minimum daily, 1.4 ft³/s (0.04 m³/s) July 2, 1980; minimum gage height, 2.11 ft (0.643 m) Oct. 24, 1980.

EXTREMES FOR CURRENT PERIOD.--Water year 1980: Maximum discharge, 1,750 ft³/s (49.6 m³/s) Dec. 14, gage height, 11.06 ft (3.371 m), from rating curve extended above 800 ft³/s (23 m³/s); minimum daily, 1.4 ft³/s (0.04 m³/s) July 2.

October 1980 to June 1981: Maximum discharge during period, 2,010 ft³/s (56.9 m³/s) June 12, gage height, 12.02 ft (3.664 m), from rating curve extended above 800 ft³/s (23 m³/s); minimum, 1.9 ft³/s (0.579 m³/s) Oct. 24, gage height, 2.11 ft (0.643 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	36	154	133	77	110	324	96	28	1.5	6.7	12
2	78	579	120	111	72	87	251	86	25	1.4	5.7	12
3	77	677	92	96	68	82	212	79	21	2.6	5.1	21
4	69	434	80	89	63	77	327	73	18	6.5	3.6	40
5	67	282	76	94	60	860	236	68	16	26	3.4	24
6	64	207	74	84	58	1220	197	64	13	10	9.7	16
7	68	154	72	91	55	742	168	61	12	5.5	31	15
8	60	119	64	103	53	510	252	56	10	4.2	21	18
9	149	116	57	100	51	388	491	50	8.0	8.0	13	24
10	590	456	51	97	49	281	454	47	8.0	146	14	37
11	415	466	49	357	47	222	329	46	8.0	279	28	55
12	300	395	49	439	46	161	245	44	7.7	135	30	39
13	310	314	914	344	44	163	231	41	7.2	312	30	24
14	387	244	1620	318	42	262	497	46	6.2	102	17	16
15	302	190	780	273	100	208	631	41	8.0	57	12	12
16	226	156	453	229	552	182	487	34	12	39	14	10
17	163	121	305	240	624	180	346	33	8.0	30	12	9.7
18	115	99	207	236	524	351	256	32	7.5	23	34	8.3
19	90	87	161	245	295	275	199	56	6.7	18	57	8.0
20	77	78	133	241	269	256	151	107	6.0	14	83	7.2
21	68	70	108	215	344	465	121	87	4.8	11	80	8.3
22	62	65	96	186	485	427	102	71	4.2	10	208	27
23	57	62	89	191	482	351	91	56	3.8	15	89	56
24	55	140	163	179	392	369	81	49	3.4	13	52	41
25	51	210	369	182	297	545	72	49	2.4	10	38	37
26	46	390	459	159	245	466	70	64	2.4	7.2	29	22
27	43	503	463	133	190	385	199	48	4.6	7.0	24	14
28	42	390	357	117	173	397	142	38	3.4	24	17	11
29	47	276	256	104	149	420	113	32	2.2	11	16	9.4
30	49	199	205	91	---	357	106	29	2.4	14	18	8.0
31	40	---	166	83	---	360	---	28	---	9.3	15	---
TOTAL	4251	7515	8242	5560	5906	11159	7381	1711	269.9	1352.2	1016.2	641.9
MEAN	137	251	266	179	204	360	246	55.2	9.00	43.6	32.8	21.4
MAX	590	677	1620	439	624	1220	631	107	28	312	208	56
MIN	40	36	49	83	42	77	70	28	2.2	1.4	3.4	7.2
CFSM	1.27	2.32	2.46	1.66	1.89	3.33	2.28	.51	.08	.40	.30	.20
IN.	1.46	2.59	2.84	1.92	2.03	3.84	2.54	.59	.09	.47	.35	.22

WTR YR 1980 TOTAL 55005.2 MEAN 150 MAX 1620 MIN 1.4 CFMS 1.39 IN 18.95

BIG SANDY RIVER BASIN

03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	11	54	74	162	300	117	104	311			
2	6.8	8.9	50	68	940	360	110	99	581			
3	6.3	7.3	51	58	600	329	99	88	892			
4	6.6	6.3	53	47	331	201	93	80	657			
5	6.3	6.0	47	45	167	290	335	74	1240			
6	6.0	6.0	45	38	150	396	327	68	1260			
7	5.7	5.4	41	38	149	319	239	65	1250			
8	5.4	5.1	37	40	127	251	186	58	901			
9	4.6	4.8	91	37	111	183	251	50	386			
10	4.6	4.6	94	31	174	147	368	44	249			
11	4.3	4.6	85	26	205	128	524	25	542			
12	3.4	4.3	74	23	196	91	407	20	778			
13	3.0	4.1	66	22	188	95	340	15	1170			
14	2.9	3.6	57	22	185	84	279	12	1030			
15	2.5	3.6	50	23	176	78	289	19	502			
16	2.4	3.6	45	24	142	85	225	14	297			
17	2.1	57	41	23	170	90	661	8.9	177			
18	3.6	114	37	20	219	85	1230	23	113			
19	4.8	72	32	19	239	84	671	361	85			
20	4.3	47	27	19	259	80	542	590	72			
21	3.2	34	18	47	259	76	402	414	66			
22	2.7	26	19	62	211	74	299	243	61			
23	2.5	23	19	69	500	90	229	149	47			
24	2.1	68	24	74	551	104	192	102	40			
25	11	287	34	75	392	106	149	80	34			
26	16	121	28	78	279	104	120	53	36			
27	13	102	27	71	198	104	102	44	30			
28	18	98	25	61	157	100	90	69	23			
29	16	80	26	55	---	93	87	91	20			
30	13	65	41	47	---	102	103	93	17			
31	12	---	58	35	---	127	---	190	---			
TOTAL	202.4	1283.2	1396	1371	7437	4756	9066	3345.9	12867			
MEAN	6.53	42.8	45.0	44.2	266	153	302	108	429			
MAX	18	287	94	78	940	396	1230	590	1260			
MIN	2.1	3.6	18	19	111	74	87	8.9	17			
CFSM	.06	.40	.42	.41	2.46	1.42	2.80	1.00	3.97			
IN.	.07	.44	.48	.47	2.56	1.64	3.12	1.15	4.43			
CAL YR 1980	TOTAL	37878.8	MEAN	103	MAX	1220	MIN	1.4	CFSM	.95	IN	13.05

03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to June 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1980 (discontinued).

WATER TEMPERATURES: November 1979 to September 1980 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: October 1979 to June 1981 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 193 micromhos June 20, 1980; minimum daily, 56 micromhos Dec. 14, 1979.

WATER TEMPERATURES: Maximum daily, 27.0°C July 9, 20, 1980; minimum daily, 0.0°C several days in 1980.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,450 mg/L June 11, 1981; minimum daily mean, 1 mg/L Jan. 2, 3, 1980, Nov. 7, 8, Dec. 17, 1980, Jan. 7, 9, 1981.

SEDIMENT LOADS: Maximum daily, 9,460 tons (8,580 metric tons) June 12, 1981; minimum daily, 0.01 ton (0.01 metric ton) Nov. 7, 1980.

EXTREMES FOR 1980 WATER YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 193 micromhos June 20; minimum daily, 56 micromhos Dec. 14.

WATER TEMPERATURES: Maximum daily, 27.0°C July 9, 20; minimum daily, 0.0°C several days during year.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,850 mg/L Dec. 13; minimum daily mean, 1 mg/L Jan. 2, 3.

SEDIMENT LOADS: Maximum daily, 6,130 tons (5,560 metric tons) Dec. 14; minimum daily, 0.08 ton (0.07 metric ton) June 25.

EXTREMES FOR PERIOD OCTOBER 1980 TO JUNE 1981.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,450 mg/L June 11; minimum daily mean, 1 mg/L Nov. 6, 7, Dec. 17, Jan. 7, 9.

SEDIMENT LOADS: Maximum daily, 9,460 tons (8,580 metric tons) June 12; minimum daily, 0.01 ton (0.01 metric ton) Nov. 7.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW- INSTAN- TANFOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
NOV. 1979												
09...	1545	104	140	6.6	9.5	--	--	--	--	--	--	--
DEC												
18...	1240	205	80	6.9	3.0	--	--	--	--	--	--	--
FEB. 1980												
08...	1150	72	85	6.6	.5	--	--	--	--	--	--	--
27...	0815	184	70	7.0	1.5	--	--	.47	K1800	240	26	12
MAR												
24...	1605	342	80	6.8	9.5	--	--	--	--	--	25	8
29...	1930	428	220	6.4	11.5	--	--	--	--	--	--	--
APR												
02...	1635	240	80	6.3	13.0	--	--	--	--	--	--	--
24...	0745	86	89	7.1	15.0	--	6.1	.22	500	160	29	11
MAY												
09...	1125	50	100	6.8	13.5	--	--	--	--	--	--	--
15...	1115	40	120	7.1	17.0	--	--	--	--	--	--	--
21...	0830	85	94	6.9	15.0	--	--	.79	K6700	K9100	38	18
JUN												
11...	1530	7.7	160	7.7	19.5	--	--	--	--	--	--	--
19...	0830	66.5	134	7.1	16.5	--	--	.37	K200	940	48	10
20...	1135	6.9	220	6.9	19.0	--	--	--	--	--	--	--
JUL												
15...	1235	38	120	7.7	25.0	--	--	--	--	--	--	--
17...	0955	28	179	7.9	24.5	--	--	.43	830	1300	38	12
AUG												
01...	1020	7.4	210	7.0	24.5	--	--	--	--	--	--	--
06...	0715	12	168	7.1	22.5	--	--	.18	K2400	5700	63	14
13...	1020	32	140	7.5	22.5	--	--	--	--	--	--	--
17...	1015	--	140	7.5	22.5	--	--	--	--	--	--	--
22...	1000	256	92	6.9	22.5	190	--	--	--	--	32	12
25...	1020	18	160	6.7	22.5	--	--	--	--	--	--	--
29...	1035	15	150	7.1	23.0	--	--	--	--	--	--	--
SEP												
12...	1000	26	190	7.0	19.0	--	--	--	--	--	--	--
16...	1445	8.3	160	7.5	21.0	--	--	--	--	--	--	--
24...	1915	33	158	7.4	19.0	--	7.9	.56	--	--	58	12
OCT												
15...	1020	41	185	7.4	11.5	--	--	--	--	--	--	--
22...	1200	2.7	178	6.9	12.5	--	6.1	.23	K190	200	63	14
24...	1110	2.3	190	6.7	11.5	--	--	--	--	--	--	--
NOV												
21...	1450	69	150	7.2	7.0	--	--	--	--	--	--	--
DEC												
05...	1555	46	120	6.6	5.0	--	--	--	--	--	--	--
17...	1615	74	120	7.4	6.0	--	--	--	--	--	--	--
JAN. 1981												
07...	1140	38	97	6.5	.5	--	13.2	.43	58	70	39	19
15...	1140	66	145	7.1	.5	--	--	--	--	--	--	--
15...	1455	23	130	6.3	.0	--	--	--	--	--	--	--
FEB												
19...	1245	232	110	7.9	8.5	--	--	--	--	--	--	--
23...	1415	500	80	7.1	7.5	--	11.4	.84	1500	1600	34	--
MAR												
03...	1700	244	90	5.9	7.0	--	--	--	--	--	--	--
18...	1505	44	110	7.1	5.5	--	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

TWELVEPOLE CREEK BASIN

03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
MAR . 1981												
24...	1235	112	160	6.4	8.0	--	--	--	--	--	--	--
APR												
13...	1820	324	72	6.7	17.5	--	8.5	.62	K2000	640	24	13
20...	1330	534	85	7.3	12.5	--	--	--	--	--	--	--
24...	1315	194	90	5.9	12.5	--	--	--	--	--	--	--
MAY												
19...	1510	154	120	7.1	13.0	--	--	--	--	--	--	--
JUN												
10...	1850	230	88	6.9	20.0	--	8.3	.61	4400	6800	31	8
26...	1055	37	180	6.6	21.0	--	--	--	--	--	--	--
JUL												
22...	1600	13	140	7.1	23.5	--	--	--	--	--	52	--

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FER . 1980											
27...	--	5.5	3.0	2.9	19	.2	1.2	14	17	2.9	.1
MAR											
24...	.1	5.5	2.8	2.3	--	.2	--	17	17	2.0	--
APR											
24...	--	6.3	3.2	3.1	18	.3	1.5	18	17	3.1	.0
MAY											
21...	--	9.	3.7	4.3	19	.3	1.3	23	20	2.9	.1
JUN											
15...	--	11	4.4	7.6	25	.5	2.4	38	14	8.6	.1
JUL											
17...	--	9.2	3.7	4.2	18	.3	2.3	26	17	4.5	.1
AUG											
16...	--	16	5.6	8.1	21	.4	2.8	56	12	9.9	.2
22...	<.1	4.3	2.9	2.5	--	.2	--	20	16	2.3	--
SEP											
24...	--	15	4.9	6.3	18	.4	3.2	49	15	7.4	.1
OCT											
22...	--	16	5.5	8.3	21	.5	3.4	49	14	13	.0
JAN . 1981											
07...	--	9.4	3.8	4.6	20	.3	1.7	23	20	5.7	.0
FEB											
23...	--	8.5	3.1	2.3	--	.2	--	13	19	3.0	<.1
APR											
13...	--	5.1	2.8	2.1	15	.2	1.6	10	17	2.4	<.1
JUN											
10...	--	7.0	3.4	3.1	17	.2	1.7	16	18	3.1	<.1
JUL											
22...	--	12	5.3	7.5	--	.5	--	41	15	9.4	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA

[illegible]

TWELVEPOLE CREEK BASIN

03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV--Continued

WATER QUALITY DATA

DATE	IRON, SUS- PENDE- RECQV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECQV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE- RECQV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECQV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE- RECQV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECQV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE- RECQV- ERABLE (UG/L AS HG)
FER , 1980											
27...	660	80	0	0	0	--	50	20	30	<.1	.0
MAR											
24...	1500	40	--	--	--	--	60	40	20	--	--
APR											
24...	--	170	--	--	--	--	--	--	60	--	--
MAY											
21...	--	70	--	--	--	--	--	--	40	--	--
JUN											
19...	800	180	0	0	0	--	200	20	180	.1	--
JUL											
17...	--	160	--	--	--	--	--	--	160	--	--
AUG											
06...	--	260	--	--	--	--	--	--	240	--	--
22...	16000	250	--	--	<10	<4	750	660	93	--	--
SEP											
24...	--	200	--	--	--	--	--	--	160	--	--
OCT											
22...	500	440	0	0	0	--	260	0	300	<.1	--
JAN , 1981											
07...	--	160	--	--	--	--	--	--	130	--	--
FER											
23...	4600	120	9	7	2	--	160	120	40	.2	.0
APR											
13...	--	80	--	--	--	--	--	--	30	--	--
JUN											
10...	1400	110	2	2	0	--	80	20	60	<.1	--
JUL											
22...	760	230	--	--	--	--	160	20	140	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECQV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE- RECQV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE- (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE- (T/DAY)
NOV , 1979											
09...	--	--	--	--	--	--	--	--	--	11	3.1
DEC											
18...	--	--	--	--	--	--	--	--	--	16	8.9
FER , 1980											
27...	<.1	--	--	--	10	0	10	--	--	--	--
MAR											
24...	--	--	--	--	--	--	--	--	10.0	42	38
APR											
02...	--	--	--	--	--	--	--	--	--	11	7.1
JUN											
19...	<.1	--	--	--	90	90	0	--	--	--	--
AUG											
01...	--	--	--	--	--	--	--	--	--	25	.50
17...	--	--	--	--	--	--	--	--	--	74	--
22...	--	<10	42	<6.0	--	--	31	11	--	540	373
OCT											
22...	<.1	--	--	--	10	9	1	--	--	--	--
FER , 1981											
23...	.2	--	--	--	10	30	4	--	--	--	--
JUN											
10...	<.1	--	--	--	20	0	20	--	--	--	--

03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	104	74	81	49	87	80	86	118	179	185	160
2	101	89	77	83	86	---	81	97	121	170	155	161
3	99	77	79	81	88	---	83	93	158	160	165	158
4	98	70	83	87	91	89	88	89	133	175	170	167
5	106	100	144	89	95	79	92	92	130	155	175	157
6	105	125	95	98	99	61	83	91	134	165	180	155
7	110	81	89	99	---	64	82	91	139	170	128	154
8	109	82	86	107	97	73	93	92	140	165	146	154
9	108	105	91	101	91	77	81	109	138	170	139	157
10	86	92	92	100	95	79	71	99	140	160	155	163
11	80	---	94	97	104	77	72	109	151	110	144	145
12	77	---	95	83	96	81	80	103	144	89	152	188
13	82	---	74	77	100	86	79	108	146	100	148	137
14	75	---	56	76	106	86	84	111	146	100	150	140
15	73	---	64	75	108	90	71	114	172	150	157	140
16	76	80	67	77	84	82	69	108	164	150	148	145
17	81	79	72	87	88	83	72	112	156	125	144	148
18	86	85	81	81	71	86	75	116	151	135	143	157
19	89	84	83	102	74	81	80	119	151	138	124	155
20	94	87	90	85	73	80	84	119	193	144	124	158
21	102	87	89	79	78	83	92	106	152	155	112	164
22	105	91	88	84	78	76	88	99	150	160	140	151
23	111	91	87	80	68	72	90	104	148	160	107	159
24	112	98	112	79	71	79	88	108	154	155	118	160
25	105	86	88	78	72	77	95	106	157	160	119	147
26	106	82	130	77	73	71	95	141	164	160	128	160
27	114	65	77	79	78	70	94	111	169	170	150	164
28	110	67	68	78	81	74	90	106	161	170	159	166
29	126	70	73	81	83	77	91	110	174	145	151	163
30	106	71	77	87	---	76	87	114	173	145	152	160
31	---	---	---	95	---	77	---	115	---	140	160	---
MEAN				86			84	105	151	149	146	156

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	3.0	.0	.0	---	13.0	22.0	---	24.5	---
2		---	---	3.0	.0	---	11.0	13.0	---	24.0	---	23.0
3		---	---	4.0	.0	---	11.0	18.0	21.0	23.0	25.0	23.0
4		---	---	3.0	.0	1.0	12.0	15.0	21.0	23.0	23.0	25.0
5		---	4.0	3.0	.0	8.5	12.0	18.0	22.0	24.0	24.0	24.0
6		---	4.0	2.5	.0	5.0	13.0	20.0	23.0	25.0	23.0	25.0
7		---	5.0	---	1.0	6.0	---	19.0	24.0	24.0	23.0	---
8		---	5.0	3.0	1.0	9.0	13.0	---	23.0	24.0	23.0	24.0
9		9.5	5.0	3.0	1.0	10.0	---	16.0	20.0	27.0	26.0	---
10		---	4.0	3.0	1.5	8.0	14.0	17.0	21.0	---	26.0	22.0
11		---	4.0	7.0	1.0	8.0	14.0	19.0	20.0	---	25.0	21.0
12		---	6.0	5.0	1.0	5.0	12.0	---	19.0	24.0	25.0	20.0
13		---	8.0	4.0	1.0	5.0	11.0	20.0	17.0	23.0	24.0	23.0
14		---	8.0	5.0	1.0	7.0	12.0	20.0	20.0	25.0	---	23.0
15		---	6.0	6.0	2.0	9.0	9.0	19.5	21.0	---	24.0	20.0
16		8.0	6.0	8.0	2.0	8.0	10.0	11.0	18.0	24.0	23.0	20.0
17		8.0	5.0	8.0	1.0	10.0	9.0	18.0	20.0	---	22.5	21.0
18		8.0	3.0	8.0	2.0	8.0	12.0	16.0	19.0	---	---	21.0
19		9.0	3.0	6.0	3.0	10.0	14.0	20.0	18.0	---	24.0	20.0
20		10.0	3.0	5.0	3.0	8.0	15.0	20.0	19.0	27.0	23.0	22.0
21		9.0	4.0	5.0	5.0	9.0	17.0	16.0	19.0	26.0	23.0	22.0
22		10.5	5.0	5.0	5.0	9.0	12.0	16.0	21.0	25.0	23.0	23.0
23		12.0	7.0	4.0	8.0	9.0	12.0	16.0	21.0	23.0	23.0	20.0
24		12.0	8.0	3.0	---	9.0	12.0	20.0	22.0	23.0	23.0	20.0
25		12.0	7.0	4.0	7.0	8.0	17.0	19.0	21.0	---	---	20.0
26		12.0	7.0	4.0	5.0	8.0	14.0	---	21.0	---	24.0	---
27		11.0	6.0	4.0	5.0	9.0	12.0	---	23.0	25.0	23.0	17.0
28		9.0	6.0	3.0	4.0	10.0	12.0	18.0	26.0	---	22.5	17.0
29		7.0	4.0	3.0	4.0	9.0	11.0	18.0	26.0	25.0	24.0	17.0
30		---	5.0	.0	---	11.0	12.0	21.0	23.0	---	24.0	17.0
31		---	---	.0	---	11.0	---	21.0	---	24.0	24.0	---

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH										
1	22	5.0	5	.49	10	4.2	4	1.4	15	3.1	17	5.0									
2	15	3.2	452	798	8	2.6	1	.30	4	.78	10	2.3									
3	20	4.2	401	742	7	1.7	1	.26	6	1.1	25	5.5									
4	25	4.7	158	185	4	.86	14	3.4	5	.85	27	5.6									
5	9	1.6	27	21	3	.62	24	6.1	2	.32	1270	3110									
6	29	5.0	15	8.4	6	1.2	10	2.3	3	.47	1630	5350									
7	30	5.5	12	5.0	7	1.4	56	14	4	.59	1690	3390									
8	7	1.1	8	2.6	6	1.0	26	7.2	15	2.1	370	509									
9	102	161	16	5.0	5	.77	10	2.7	20	2.8	96	101									
10	361	635	135	168	9	1.2	8	2.1	18	2.4	69	52									
11	63	71	41	52	22	2.9	87	131	10	1.3	44	26									
12	42	34	34	36	18	2.4	197	234	6	.75	31	13									
13	44	37	31	26	1850	6050	133	124	5	.59	50	22									
14	70	73	24	16	1440	6130	78	67	9	1.0	67	47									
15	30	24	14	7.2	178	375	125	92	47	13	51	29									
16	23	14	9	3.8	84	103	65	40	260	383	42	21									
17	35	15	5	1.6	31	26	119	77	212	357	58	28									
18	13	4.0	5	1.3	15	8.4	71	45	140	198	108	103									
19	7	1.7	4	.94	13	5.7	41	27	65	52	71	53									
20	8	1.7	4	.84	9	3.2	42	27	63	46	47	32									
21	9	1.7	4	.76	3	.87	38	22	338	314	175	223									
22	6	1.0	4	.70	33	8.6	22	11	424	555	109	126									
23	8	1.2	6	1.0	42	10	24	12	268	349	67	63									
24	5	.74	60	23	25	11	26	13	91	96	81	91									
25	5	.69	49	28	66	66	35	17	67	54	217	319									
26	4	.50	216	235	643	810	30	13	28	19	144	181									
27	5	.58	536	730	95	119	13	4.7	46	24	94	98									
28	5	.57	149	157	89	86	11	3.5	27	13	152	174									
29	5	.63	26	19	45	31	18	5.1	15	6.0	159	181									
30	5	.66	14	7.5	18	10	10	2.5	---	---	75	72									
31	5	.54	---	---	7	3.1	6	1.3	---	---	90	87									
TOTAL	---	1110.51	---	3283.13	---	13877.72	---	1008.86	---	2497.15	---	14519.4									
1	59	52	8	2.1	15	1.1	33	.13	28	.51	24	.78									
2	33	22	12	2.8	20	1.4	36	.14	25	.38	22	.71									
3	32	18	12	2.6	28	1.6	22	.15	25	.34	56	3.2									
4	107	101	10	2.0	33	1.6	20	.35	23	.22	50	5.4									
5	48	31	15	2.8	27	1.2	65	4.6	20	.18	47	3.0									
6	36	19	36	6.2	29	1.0	49	1.3	31	.81	33	1.4									
7	26	12	18	3.0	27	.87	43	.64	65	5.4	32	1.3									
8	139	146	7	1.1	25	.68	42	.48	58	3.3	68	3.3									
9	269	365	7	.95	25	.54	47	1.0	65	2.3	47	3.0									
10	246	302	17	2.2	27	.58	553	367	73	2.8	72	7.2									
11	112	99	17	2.1	29	.63	1050	869	70	5.3	105	16									
12	53	35	9	1.1	22	.46	385	185	85	6.9	53	5.6									
13	47	29	7	.77	24	.47	804	752	67	5.4	56	3.6									
14	306	465	60	7.5	20	.33	200	55	45	2.1	44	1.9									
15	636	1090	17	1.9	15	.32	26	4.0	66	2.1	40	1.3									
16	315	414	12	1.1	19	.62	15	1.6	56	2.1	50	1.4									
17	86	80	30	2.7	26	.56	38	3.1	63	2.0	33	.86									
18	41	28	5	.43	20	.41	46	2.9	92	8.4	21	.47									
19	29	16	27	4.1	16	.29	43	2.1	132	21	23	.50									
20	22	9.0	83	24	19	.31	35	1.3	153	39	55	1.1									
21	16	5.2	70	16	20	.26	46	1.4	148	32	78	1.7									
22	20	5.5	29	5.6	12	.14	37	1.0	448	250	142	10									
23	18	4.4	24	3.6	11	.11	60	2.4	194	47	199	31									
24	20	4.4	14	1.9	14	.13	55	1.9	96	13	63	7.0									
25	13	2.5	21	2.8	13	.08	33	.89	60	6.2	82	8.2									
26	15	2.8	35	6.0	14	.09	22	.43	48	3.8	48	2.9									
27	87	52	15	1.9	15	.19	16	.30	63	4.1	25	.95									
28	37	14	26	2.7	34	.31	52	3.4	39	1.8	30	.89									
29	21	6.4	30	2.6	33	.20	62	1.8	28	1.2	39	.99									
30	15	4.3	21	1.6	27	.17	56	2.1	27	1.3	19	.41									
31	---	---	13	.98	---	---	56	1.4	24	.97	---	---									
TOTAL	---	3434.5	---	117.13	---	16.65	---	2268.81	---	471.91	---	126.06									
TOTAL LOAD FOR YEAR:		42731.83		TONS.																	

TWELVEPOLE CREEK BASIN

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03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14	.28	10	.30	6	.87	15	3.0	27	12	67	54
2	18	.33	8	.19	6	.81	11	2.0	351	891	55	53
3	15	.26	8	.16	4	.55	11	1.7	244	395	44	39
4	15	.27	6	.10	4	.57	11	1.4	205	183	28	15
5	10	.17	4	.06	5	.63	9	1.1	48	22	84	66
6	9	.15	1	.02	9	1.1	5	.51	29	12	84	90
7	11	.17	1	.01	9	1.0	1	.10	29	12	47	40
8	10	.15	3	.04	5	.50	2	.22	54	19	28	19
9	10	.12	4	.05	64	16	1	.10	40	12	20	9.9
10	8	.10	3	.04	32	8.1	8	.67	56	26	30	12
11	9	.10	2	.02	21	4.8	14	.98	69	38	30	10
12	7	.06	2	.02	14	2.8	10	.62	64	34	22	5.4
13	3	.02	2	.02	6	1.1	9	.53	48	24	39	10
14	4	.03	3	.03	6	.92	6	.36	40	20	21	4.8
15	10	.07	3	.03	4	.54	5	.31	66	31	15	3.2
16	17	.11	2	.02	4	.49	8	.52	34	13	19	4.4
17	15	.09	41	19	1	.11	8	.50	47	22	19	4.6
18	15	.15	92	34	6	.60	7	.38	67	40	10	2.3
19	16	.21	36	7.0	7	.60	9	.46	84	54	11	2.5
20	15	.17	13	1.6	7	.51	10	.51	80	56	8	1.7
21	15	.13	28	2.6	7	.34	38	4.8	74	52	3	.62
22	15	.11	16	1.1	8	.41	24	4.0	47	27	6	1.2
23	16	.11	6	.37	8	.41	24	4.5	172	232	4	.97
24	24	.14	28	5.1	11	.71	18	3.6	182	271	19	5.3
25	26	.77	376	327	8	.73	20	4.1	108	114	26	7.4
26	20	.86	53	17	9	.68	25	5.3	60	45	32	9.0
27	12	.42	49	13	9	.66	20	3.8	51	27	21	5.9
28	15	.73	23	6.1	6	.41	13	2.1	49	21	14	3.8
29	13	.56	12	2.6	8	.56	12	1.8	---	---	16	4.0
30	8	.28	8	1.4	12	1.3	12	1.5	---	---	38	10
31	10	.32	---	---	14	2.2	9	.85	---	---	28	9.6
TOTAL	---	7.44	---	438.98	---	51.01	---	52.32	---	2705	---	504.59
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	35	11	34	9.5	138	116						
2	34	10	27	7.2	1140	2450						
3	24	6.4	20	4.8	1160	3020						
4	17	4.3	19	4.1	963	1750						
5	239	235	23	4.6	1160	4270						
6	111	102	35	6.4	220	748						
7	68	44	24	4.2	230	776						
8	44	22	17	2.7	240	584						
9	353	371	24	3.2	78	81						
10	704	737	20	2.4	111	75						
11	288	412	32	2.2	4450	6460						
12	144	158	28	1.5	4130	9460						
13	144	132	31	1.3	1170	3580						
14	88	66	36	1.2	105	292						
15	102	80	64	3.3	2570	3260						
16	74	45	32	1.2	760	609						
17	416	1000	122	2.9	154	74						
18	377	1400	284	22	73	22						
19	203	368	184	206	88	20						
20	185	271	210	334	52	10						
21	108	117	143	160	35	6.2						
22	82	66	121	79	40	6.6						
23	90	56	117	47	33	4.2						
24	55	29	52	14	26	2.8						
25	48	19	36	7.8	17	1.6						
26	37	12	66	9.4	15	1.5						
27	35	9.6	39	4.6	12	.97						
28	39	9.5	34	6.3	29	1.8						
29	40	9.4	62	15	27	1.5						
30	45	13	88	25	9	.41						
31	---	---	200	100	---	---						
TOTAL	---	5815.2	---	1092.8	---	37684.58						

TWELVEPOLE CREEK BASIN

03207020 TWELVEPOLE CREEK BELOW WAYNE, WV

LOCATION.--Lat 38°14'56", long 82°26'06", Wayne County, Hydrologic Unit 05090102, on left bank just downstream from bridge on State Highway 52/43, 1.9 mi (3.1 km) northeast of Wayne, and at mile 29.2 (47.0 km).

DRAINAGE AREA.--300 mi² (777 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1915 to September 1917, October 1917 to September 1922 (gage heights only), February 1927 to September 1931, August 1946 to September 1954, October 1955 to current year. Prior to October 1966 published as "at Wayne." Gage-height records collected at site 2.0 mi (3.2 km) upstream from 1924 to March 1949 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1335: 1916-17, 1930. WDR WV-79-1: 1978(m).

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft (170.688 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 29, 1957, nonrecording gage, and Aug. 29, 1957, to Sept. 30, 1966, water-stage recorder at site 2.0 mi (3.2 km) upstream at datum 16.53 ft (5.038 m) higher. Oct. 1, 1966, to Dec. 15, 1966, non-recording gage at present site and datum.

REMARKS.--Water-discharge records good. Flow regulated since March 1972 by East Lynn Lake (station 03206780). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--39 years (water years 1916-17, 1929-31, 1947-54, 1956-81), 349 ft³/s (9.884 m³/s), 15.80 in/yr (401 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,900 ft³/s (450 m³/s) Feb. 28, 1962, gage height, 29.46 ft (8.979 m) site and datum then in use, from rating curve extended above 9,500 ft³/s (270 m³/s) on basis of slope-area measurement of peak flow; no flow Oct. 21-27, Nov. 2, 1953, Nov. 4, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1928, reached a stage of 28.3 ft (8.63 m), discharge, 14,000 ft³/s (396 m³/s); flood of Feb. 4, 1939, reached a stage of 31.03 ft (9.458 m), discharge, 22,000 ft³/s (623 m³/s), both at former site and datum, from readings by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,420 ft³/s (125 m³/s) Apr. 18, gage height, 17.79 ft (5.422 m); minimum, 14 ft³/s (0.40 m³/s) Oct. 23, Sept. 27, 28, 29, gage height, 3.60 ft (1.097 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	160	185	217	208	857	171	316	716	77	54	15
2	27	128	176	240	2300	886	157	342	1030	59	44	15
3	25	113	195	215	1580	716	143	309	1920	56	39	16
4	25	80	241	181	1140	557	133	270	1800	50	37	16
5	23	77	335	165	897	971	630	219	2550	116	30	16
6	23	73	274	110	438	1060	445	193	2670	175	44	19
7	22	69	268	99	342	937	307	143	2770	369	54	23
8	21	45	261	102	359	692	263	124	2480	263	62	20
9	19	43	468	101	318	498	412	110	1120	176	46	18
10	18	41	450	136	356	349	1020	86	602	142	37	16
11	16	40	351	133	627	265	1400	90	666	127	31	15
12	14	23	318	117	483	255	1100	89	997	117	28	17
13	14	18	300	70	443	228	1020	86	2520	71	27	16
14	14	17	278	68	541	213	974	80	2900	75	28	21
15	14	17	180	51	462	200	1020	94	1840	63	25	29
16	14	18	155	49	392	219	807	83	675	55	23	22
17	15	86	98	46	465	219	1510	75	404	51	21	58
18	19	491	90	42	522	178	3500	81	318	46	21	37
19	23	289	85	40	560	168	2060	804	226	42	20	27
20	19	238	77	40	690	160	1950	1570	180	40	19	22
21	17	211	63	108	649	152	1650	1310	151	38	18	20
22	16	199	64	197	579	146	1050	758	173	39	17	18
23	15	188	65	230	1000	188	684	450	127	37	17	17
24	15	332	79	220	1220	259	485	316	108	34	16	16
25	41	530	72	206	1100	257	420	249	78	32	16	16
26	53	501	62	215	891	253	284	183	72	28	15	15
27	29	257	63	208	687	251	257	202	70	30	15	15
28	33	263	58	193	480	243	240	185	60	34	15	15
29	39	206	60	107	---	199	238	220	54	106	15	14
30	30	170	91	84	---	204	268	241	56	168	15	15
31	44	---	136	66	---	186	---	404	---	126	15	---
TOTAL	735	4923	5598	4056	19729	11966	24598	9682	29333	2842	864	599
MEAN	23.7	164	181	131	705	386	820	312	978	91.7	27.9	20.0
MAX	53	530	468	240	2300	1060	3500	1570	2900	369	62	58
MIN	14	17	58	40	208	146	133	75	54	28	15	14

CAL YR 1980 TOTAL 105373 MEAN 288 MAX 2660 MIN 14 MEAN# 289 CFSM# 0.96 IN# 13.12
WTR YR 1981 TOTAL 114925 MEAN 315 MAX 3500 MIN 14 MEAN# 315 CFSM# 1.05 IN# 14.26

* Adjusted for change in contents in East Lynn Lake.

TWELVEPOLE CREEK BASIN

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03207020 TWELVEPOLE CREEK BELOW WAYNE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
22...	1600	16	166	6.7	14.5	6.9	.57	3900	420	53	25
23...	1330	15	175	--	15.0	--	--	--	--	--	--
24...	0900	15	180	--	12.5	--	--	--	--	--	--
DEC											
18...	1430	91	125	7.2	5.0	--	--	--	--	--	--
JAN											
07...	1505	100	102	6.4	.0	14.4	.43	2200	380	41	23
30...	1210	82	105	6.3	2.0	13.3	--	--	--	--	--
FEB											
24...	0925	1170	76	6.8	6.0	12.5	.59	1100	580	33	--
MAR											
13...	1030	222	90	6.0	6.5	11.2	--	--	--	--	--
APR											
13...	1350	1030	80	6.9	17.0	9.0	.64	4900	92	29	20
28...	1750	225	95	6.2	17.0	--	--	--	--	--	--
JUN											
11...	1250	742	82	6.8	20.0	8.7	.66	4800	3200	31	17
JUL											
23...	0830	38	160	6.7	22.5	--	--	--	--	48	--
AUG											
18...	1140	20	168	6.1	21.0	5.6	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT											
22...	13	5.0	8.0	24	.5	2.7	31	26	12	.0	5.5
JAN											
07...	9.8	4.1	4.5	18	.3	1.8	20	26	5.1	.0	6.2
FEB											
24...	7.9	3.2	2.1	--	.2	--	12	20	2.5	<.1	8.0
APR											
13...	6.3	3.1	2.2	14	.2	1.7	11	20	2.3	<.1	7.7
JUN											
11...	6.8	3.3	2.8	16	.2	1.8	15	19	2.8	<.1	8.3
JUL											
23...	11	5.1	8.3	--	.5	--	20	26	9.4	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
22...	90	90	3.8	.16	.32	.41	.020	90	80	10
JAN										
07...	75	69	20.2	.27	.04	.16	.010	--	--	200
FEB										
24...	58	--	183	.39	.13	.20	.020	2900	2900	30
APR										
13...	55	49	153	.25	.31	.39	.030	--	--	0
JUN										
11...	49	53	98.2	.23	.39	.43	<.010	800	780	20
JUL										
23...	96	--	9.8	--	--	--	--	--	--	--

TWELVEPOLE CREEK BASIN

03207020 TWELVEPOLE CREEK BELOW WAYNE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)
OCT 22...	0	0	0	30	0	820	540	280	1	1
JAN 07...	--	--	--	--	--	--	--	140	--	--
FEB 24...	1	0	1	20	0	3300	3200	100	4	1
APR 13...	--	--	--	--	--	--	--	60	--	--
JUN 11...	1	0	2	10	0	2100	2000	60	9	9
JUL 23...	--	--	--	--	--	870	700	170	--	--

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	0	500	0	530	<.1	--	<.1	20	20	3
JAN 07...	--	--	--	250	--	--	--	--	--	--
FEB 24...	3	170	90	80	.2	.0	.2	20	20	4
APR 13...	--	--	--	80	--	--	--	--	--	--
JUN 11...	0	100	50	50	<.1	--	<.1	20	--	<4
JUL 23...	--	450	60	390	--	--	--	--	--	--

TWELVEPOLE CREEK BASIN

379

03207055 BEECH FORK LAKE NEAR LAVALETTE, WV

LOCATION.--Lat 38°18'14", long 82°24'58", Wayne County, Hydrologic Unit 05090102, at Beech Fork Dam on Beech Fork 2.1 mi (3.4 km) southeast of Lavalette and at mile 3.4 (5.5 km).

DRAINAGE AREA.--78.0 mi² (202 km²).

PERIOD OF RECORD.--January 1978 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by random earth and rockfill dam with impervious core, completed in 1977. Closure of dam was made and storage began in January 1978. Spillway is uncontrolled, broad-crested, crest elevation 614.5 ft (187.30 m). Low flow is controlled by two 2.5 ft (0.76 m) wide by 3.0 ft (0.91 m) high gates and high flows are controlled by two 4.5 ft (1.37 m) wide by 10 ft (3.05 m) high gates. Total level-pool capacity at elevation 614.5 ft (187.30 m), spillway crest, is 37,500 acre-ft (46.2 hm³) of which 33,300 acre-ft (41.1 hm³) is controlled storage above elevation 583.5 ft (177.85 m), minimum-pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 19,760 acre-ft (24.4 hm³) Dec. 12, 1978, elevation 602.94 ft (183.78 m), minimum since initial filling, 3,446 acre-ft (4.25 hm³), elevation 581.75 ft (177.32 m) Dec. 17, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 11,640 acre-ft (14.4 hm³) Apr. 18, elevation 595.17 ft (181.408 m), minimum, 4,091 acre-ft (5.04 hm³) Mar. 10, elevation 583.25 ft (177.775 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	592.27	9374	-	-
Oct. 31.....	591.90	9107	-267	-4
Nov. 30.....	583.89	4387	-4720	-79
Dec. 31.....	583.86	4373	-14	0
CAL YR 1980			+5	0
Jan. 31.....	583.53	4219	-154	-3
Feb. 28.....	583.46	4187	-32	-1
Mar. 31.....	583.76	4326	+139	+2
Apr. 30.....	592.37	9447	+5121	+86
May 31.....	592.38	9455	+8	0
June 30.....	592.05	9215	-240	-4
July 31.....	592.01	9186	-29	0
Aug. 31.....	591.08	8532	-654	-11
Sept. 30.....	590.01	7815	-717	-12
WTR YR 1981			-1559	-2

TWELVEPOLE CREEK BASIN

03207057 BEECH FORK BELOW BEECH FORK DAM, WV

LOCATION.--Lat 38°18'18", long 82°25'28", Wayne County, Hydrologic Unit 05090102, on left bank 2,500 ft (762 m) downstream from Beech Fork Dam, and 1.7 mi (2.7 km) southeast of Lavalette and at mile 3.0 (4.8 km).

DRAINAGE AREA.--80.4 mi² (208 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 549.54 ft (167.500 m), National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 12, 1979, at datum 0.46 ft (0.140 m) higher.

REMARKS.--Water-discharge records good. Flow regulated since January 1978 by Beech Fork Lake (station 03207055).

AVERAGE DISCHARGE.--5 years, 94.5 ft³/s (2.676 m³/s), 15.96 in/yr (405 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft³/s (52.1 m³/s) Apr. 5, 1977, gage height, 10.29 ft (3.136 m); minimum, 0.02 ft³/s (0.001 m³/s) July 20, 1977, gage height, 0.15 (0.046 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft³/s (31.7 m³/s) Feb. 2, gage height, 7.23 ft (2.204 m); minimum, 6.0 ft³/s (0.17 m³/s) Jan. 12, gage height, 0.80 (0.244 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	68	57	65	23	101	12	117	12	13	11	11
2	7.9	25	23	115	641	152	12	89	24	11	11	11
3	8.2	93	70	103	991	163	12	88	31	11	10	11
4	8.2	128	63	83	456	106	12	87	498	11	10	10
5	8.2	128	26	38	125	303	17	72	697	12	10	10
6	8.2	128	34	14	130	273	14	38	300	12	12	11
7	8.2	116	34	14	105	148	14	23	208	11	11	11
8	7.9	107	23	14	16	80	12	18	91	11	11	11
9	7.9	107	83	14	90	58	11	18	31	11	11	12
10	7.9	107	195	13	81	47	13	18	28	11	11	12
11	8.9	106	184	13	135	26	14	18	28	12	10	11
12	11	106	74	11	168	26	9.9	18	50	12	10	11
13	11	106	20	11	128	26	14	18	324	12	10	11
14	11	98	19	9.6	69	26	13	16	372	12	9.9	11
15	11	94	19	8.2	69	26	14	15	304	12	9.9	11
16	9.2	94	19	8.1	69	26	13	14	66	12	11	11
17	6.5	100	19	7.9	132	26	168	13	14	12	11	11
18	6.5	272	19	7.9	163	82	438	16	13	12	11	11
19	6.5	328	19	7.9	163	54	829	676	12	12	11	12
20	6.5	196	19	7.9	163	36	902	663	12	12	11	12
21	6.5	108	19	37	152	36	275	212	12	12	11	11
22	6.5	108	17	137	113	36	86	52	12	12	11	11
23	6.5	107	13	116	399	37	98	10	10	12	9.9	11
24	6.5	108	13	45	409	38	99	11	11	12	9.9	11
25	6.5	177	12	74	167	38	99	11	11	12	9.9	11
26	6.5	169	12	43	80	33	99	10	11	12	9.9	11
27	6.5	129	12	28	77	24	41	10	12	12	10	11
28	6.5	164	12	24	78	23	11	12	12	11	9.9	11
29	6.5	174	12	11	---	23	11	12	12	12	9.9	11
30	6.5	119	13	11	---	15	14	12	13	11	10	11
31	42	---	56	11	---	12	---	12	---	11	11	---
TOTAL	275.6	3870	1210	1102.5	5392	2100	3376.9	2399	3231	363	325.2	332
MEAN	8.89	129	39.0	35.6	193	67.7	113	77.4	108	11.7	10.5	11.1
MAX	42	328	195	137	991	303	902	676	697	13	12	12
MIN	6.5	25	12	7.9	16	12	9.9	10	10	11	9.9	10

CAL YR 1980 TOTAL 28613.1 MEAN 78.2 MAX 978 MIN 6.0 MEAN# 78.2 CFSM# 0.97 IN# 13.24
WTR YR 1981 TOTAL 23977.2 MEAN 65.7 MAX 991 MIN 6.5 MEAN# 63.7 CFSM# 0.79 IN# 10.76

* Adjusted for change in contents in Beech Fork Lake near Lavalette.

TWELVEPOLE CREEK BASIN

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03207057 BEECH FORK BELOW BEECH FORK DAM, WV--Continued

PERIOD OF RECORD.--October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
22...	1735	6.5	144	6.9	16.0	8.1	.65	30	56	56	16
JAN											
13...	1120	11	156	6.7	3.5	13.4	.73	K4	K1	66	29
30...	1100	11	181	6.3	3.5	11.7	--	--	--	--	--
FEB											
24...	1440	282	126	7.0	6.0	12.4	.86	80	70	60	--
MAR											
13...	1200	26	145	6.5	7.5	11.7	--	--	--	--	--
APR											
13...	1045	14	157	7.4	17.5	11.0	.84	K300u	320	60	28
28...	1630	11	128	6.6	16.5	9.4	--	--	--	--	--
JUN											
11...	1515	28	125	7.1	19.5	9.2	.89	K38u	160	53	28
17...	1215	15	165	7.3	18.5	8.6	--	--	--	--	--
JUL											
23...	1000	12	140	7.1	21.5	--	--	--	--	54	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT											
22...	16	3.9	3.4	11	.2	2.3	40	20	2.3	.0	3.6
JAN											
13...	18	5.1	5.2	14	.3	2.2	37	34	3.8	.1	5.7
FEB											
24...	17	4.3	3.8	--	.2	--	26	30	3.2	<.1	7.2
APR											
13...	17	4.3	4.8	14	.3	1.8	38	30	3.3	.1	7.0
JUN											
11...	15	3.8	4.0	14	.2	1.5	25	26	6.6	<.1	6.2
JUL											
23...	15	4.0	3.9	--	.2	--	38	23	2.4	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
22...	86	77	1.5	.07	.25	.58	.010	320	310	10
JAN										
13...	112	97	3.3	.35	.15	.38	.010	--	--	200
FEB										
24...	93	--	70.8	.65	.12	.21	.010	780	740	40
APR										
13...	93	88	3.5	.37	.36	.47	.030	--	--	100
JUN										
11...	80	78	6.0	.15	.63	.74	<.010	380	330	50
JUL										
23...	90	--	2.9	--	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

TWELVEPOLE CREEK BASIN

03207057 BEECH FORK BELOW BEECH FORK DAM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)
OCT 22...	1	1	0	40	0	2700	2400	310	5	5
JAN 13...	--	--	--	--	--	--	--	210	--	--
FEB 24...	1	0	1	20	0	2000	1900	120	4	4
APR 13...	--	--	--	--	--	--	--	60	--	--
JUN 11...	1	0	1	10	0	1200	1100	60	3	3
JUL 23...	--	--	--	--	--	1500	1200	300	--	--

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	0	1300	0	1400	<.1	--	<.1	20	20	3
JAN 13...	--	--	--	520	--	--	--	--	--	--
FEB 24...	0	260	50	210	.1	.0	.1	10	6	4
APR 13...	--	--	--	140	--	--	--	--	--	--
JUN 11...	0	380	60	320	<.1	--	<.1	20	0	30
JUL 23...	--	890	90	800	--	--	--	--	--	--

BIG SANDY RIVER BASIN

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03212558 PUNCHEONCAMP BRANCH AT LECKIE, WV

LOCATION.--Lat 37°20'37", long 81°24'42", McDowell County, Hydrologic Unit 05070201, on right bank at Leckie, 1,500 ft (457 m) upstream from mouth and Little Creek, and 1.5 mi (2.4 km) northeast of Anawalt.

DRAINAGE AREA.--1.36 mi² (3.52 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,780.00 ft (542.544 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23 ft³/s (0.651 m³/s) June 6, gage height, 2.44 ft (0.744 m), from rating curve extended above 10 ft³/s (0.28 m³/s); minimum daily, 0.05 ft³/s (0.001 m³/s) Jan. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.16	.27	.26	.30	.94	.94	1.4	5.6	.81	.35	.32
2	.24	.16	.25	.23	1.1	.92	.86	1.2	9.7	.64	.34	.31
3	.23	.16	.24	.17	.78	.83	.85	1.1	5.8	.59	.35	.27
4	.21	.21	.21	.11	.50	1.3	.84	1.1	7.1	.59	.34	1.4
5	.21	.18	.21	.07	.30	3.5	1.5	1.0	7.5	.55	.32	.37
6	.20	.16	.21	.05	.32	3.2	1.4	.97	8.7	.57	.51	.29
7	.18	.16	.21	.07	.34	1.9	1.3	.90	12	.56	.52	.26
8	.18	.16	.21	.06	.36	1.3	1.1	.82	7.1	.50	.59	.28
9	.18	.18	.29	.12	.28	1.1	1.4	.79	5.8	.47	.39	.25
10	.18	.17	.26	.15	.36	1.0	1.5	.79	4.4	.43	.34	.21
11	.17	.16	.24	.13	.50	.96	1.5	1.1	3.4	.42	.32	.20
12	.16	.16	.24	.11	.40	.86	1.4	.85	2.9	.39	.49	.18
13	.16	.16	.24	.16	.30	.81	1.7	.74	2.5	.38	.32	.18
14	.16	.16	.24	.22	.45	.73	2.0	.67	2.0	2.5	.30	.18
15	.16	.17	.24	.18	.43	.67	1.8	1.2	1.7	.70	.29	.84
16	.16	.18	.24	.16	.45	1.0	1.7	.86	1.5	.86	.29	.83
17	.16	.43	.18	.16	1.1	1.0	3.7	.73	1.4	.66	.26	.39
18	.20	.42	.18	.17	1.3	1.0	4.5	.73	1.2	.58	.24	.30
19	.19	.27	.18	.14	1.1	.91	3.3	6.2	1.1	.53	.23	.29
20	.16	.22	.14	.14	3.0	.82	7.2	6.5	1.1	.53	.22	.26
21	.16	.19	.13	.30	1.7	.78	4.7	3.0	1.1	.48	.21	.23
22	.16	.18	.12	.33	1.1	.79	3.6	2.4	.97	.73	.20	.22
23	.16	.22	.21	.36	1.3	.92	3.4	2.0	.86	.48	.19	.20
24	.16	.85	.34	.33	1.3	1.0	3.1	1.8	.77	.49	.19	.19
25	.69	.56	.19	.30	1.1	1.5	2.7	1.6	.81	.48	.18	.19
26	.30	.38	.15	.33	.84	1.4	2.4	1.4	.84	.42	.17	.19
27	.22	.34	.12	.36	.73	1.2	2.0	3.5	.70	.39	.17	.18
28	.21	.35	.11	.31	.77	1.0	1.8	9.2	.65	.68	.17	.18
29	.18	.32	.25	.27	---	.98	1.7	8.4	.60	.55	.16	.18
30	.17	.28	.28	.23	---	1.1	1.5	5.7	.99	.44	.16	.18
31	.16	---	.25	.20	---	.90	---	5.0	---	.39	.17	---
TOTAL	6.27	7.70	6.63	6.18	22.51	36.32	67.39	73.65	100.79	18.79	8.98	9.55
MEAN	.20	.26	.21	.20	.80	1.17	2.25	2.38	3.36	.61	.29	.32
MAX	.69	.85	.34	.36	3.0	3.5	7.2	9.2	12	2.5	.59	1.4
MIN	.16	.16	.11	.05	.28	.67	.84	.67	.60	.38	.16	.18
CFSM	.15	.19	.15	.15	.59	.86	1.65	1.75	2.47	.45	.21	.24
IN.†	.17	.21	.18	.17	.62	.99	1.84	2.01	2.75	.51	.25	.26
IN.‡	1.67	2.48	1.00	.80	2.87	2.43	4.24	5.94	5.09	4.09	2.06	4.40

WTR YR 1981 TOTAL 364.76 MEAN 1.00 MAX 12 MIN .05 CFMS .74 IN 9.97

† Runoff.

‡ Rainfall.

BIG SANDY RIVER BASIN

03212558 PUNCHEONCAMP BRANCH AT LECKIE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: October 1980 to September 1981 (discontinued).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 841 mg/L July 14; minimum daily mean, 1 mg/L many days during year.

SEDIMENT LOADS: Maximum daily, 17 tons (15 metric tons) July 14; minimum daily, 0 ton (0 metric ton) many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 28...	1120	.21	360	--	11.5	9.2	--	--	--	--	--
NOV 17...	1540	.56	--	7.3	6.0	--	--	--	--	--	--
DEC 16...	1210	.17	--	7.5	4.5	--	--	--	--	--	--
JAN 21...	1230	.30	--	7.0	--	--	--	--	--	--	--
FEB 10...	1155	.30	235	7.3	1.0	10.7	100	63	<.1	20	13
MAR 03...	1220	.86	228	7.4	4.0	8.4	92	48	--	17	12
24...	1205	1.1	236	7.3	7.0	10.7	87	46	.0	15	12
APR 14...	1410	1.8	214	7.1	14.5	11.1	85	44	--	16	11
MAY 05...	1250	1.0	380	8.0	16.5	8.0	--	--	--	--	--
19...	1610	8.5	235	6.9	--	--	--	--	--	--	--
JUN 04...	1430	10	229	7.4	15.0	9.4	90	43	--	18	11
30...	1205	.62	469	7.9	15.5	--	180	82	--	37	22
JUL 15...	1530	.62	335	8.2	20.5	8.5	150	79	--	30	18
AUG 05...	1610	.30	370	8.3	22.5	5.2	200	100	--	41	24
SEP 02...	1005	.27	110	8.1	19.0	--	180	83	--	34	22
21...	1540	.21	340	7.5	17.0	--	--	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	FLUOR- IDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
FEB 10...	6.1	--	.3	--	37	60	2.1	--	--	--	--
MAR 03...	5.2	--	.2	--	44	55	2.1	--	--	--	--
24...	5.7	--	.3	--	41	59	1.4	--	--	--	--
APR 14...	4.8	--	.2	--	41	49	1.3	--	--	--	--
JUN 04...	3.3	--	.2	--	47	43	1.5	--	--	--	--
30...	7.7	--	.2	--	98	86	2.4	--	--	265	--
JUL 15...	6.6	--	.2	--	71	64	--	--	--	218	--
AUG 05...	8.3	--	.3	--	99	84	--	--	--	252	--
SEP 02...	8.0	9	.3	3.2	97	76	3.3	.1	5.8	249	211

BIG SANDY RIVER BASIN

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03212558 PUNCHEONCAMP BRANCH AT LECKIE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)
FEB											
10...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
APR											
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
04...	--	--	--	--	--	--	--	--	--	--	--
30...	.36	.44	--	--	--	--	--	--	--	--	--
JUL											
15...	.30	.36	--	--	--	--	--	--	--	--	--
AUG											
05...	.34	.20	--	--	--	--	--	--	--	--	--
SEP											
02...	.34	.18	<.010	.11	.020	.020	2	<1	100	2	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	CORALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)
FEB											
10...	--	--	--	--	--	410	--	<10	--	--	--
MAR											
03...	--	--	--	--	--	120	100	20	--	--	--
24...	--	--	--	--	--	170	--	<10	--	--	--
APR											
14...	--	--	--	--	--	630	610	20	--	--	--
JUN											
04...	--	--	--	--	--	7000	7000	40	--	--	--
30...	--	--	--	--	--	230	220	10	--	--	--
JUL											
15...	--	--	--	--	--	1300	1300	10	--	--	--
AUG											
05...	--	--	--	--	--	450	440	10	--	--	--
SEP											
02...	10	3	<10	4	8	980	--	--	5000	29	12

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CYANIDE TOTAL (MG/L AS CN)
FEB										
10...	10	0	10	--	--	--	--	--	--	--
MAR										
03...	10	1	9	--	--	--	--	--	--	--
24...	10	6	4	--	--	--	--	--	--	--
APR										
14...	40	30	6	--	--	--	--	--	--	--
JUN										
04...	260	250	9	--	--	--	--	--	--	--
30...	30	20	8	--	--	--	--	--	--	--
JUL										
15...	50	40	10	--	--	--	--	--	--	--
AUG										
05...	20	10	7	--	--	--	--	--	--	--
SEP										
02...	30	--	--	.1	<.01	1	<1	<1	32	<.01

03212558 PUNCHEONCAMP BRANCH AT LECKIE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4	.00	5	.03	5	.00	1	.00	12	.00	13	.03
2	4	.00	4	.00	4	.00	1	.00	22	.07	10	.02
3	4	.00	3	.00	3	.00	1	.00	8	.02	9	.02
4	4	.00	8	.00	2	.00	1	.00	8	.01	41	.14
5	4	.00	5	.00	2	.00	1	.00	6	.00	58	.55
6	4	.00	3	.00	3	.00	1	.00	5	.00	32	.28
7	4	.00	3	.00	3	.00	1	.00	4	.00	24	.12
8	2	.00	3	.00	3	.00	1	.00	4	.00	19	.07
9	4	.00	7	.00	5	.00	1	.00	10	.00	15	.04
10	4	.00	4	.00	2	.00	1	.00	10	.00	17	.05
11	4	.00	4	.00	1	.00	1	.00	11	.01	31	.08
12	4	.00	2	.00	1	.00	1	.00	9	.00	25	.06
13	3	.00	1	.00	1	.00	2	.00	7	.00	13	.03
14	2	.00	2	.00	1	.00	2	.00	5	.00	15	.03
15	3	.00	2	.00	1	.00	3	.00	3	.00	20	.04
16	3	.00	3	.00	1	.00	3	.00	15	.02	27	.07
17	5	.00	16	.02	1	.00	4	.00	25	.07	29	.08
18	10	.00	11	.01	1	.00	6	.00	10	.04	26	.07
19	5	.00	7	.00	1	.00	9	.00	7	.02	21	.05
20	3	.00	5	.00	1	.00	11	.00	63	.51	19	.04
21	2	.00	3	.00	1	.00	9	.00	7	.03	18	.04
22	1	.00	1	.00	1	.00	9	.00	2	.00	14	.03
23	2	.00	5	.00	1	.00	8	.00	16	.06	18	.04
24	2	.00	81	.21	6	.00	7	.00	5	.02	17	.05
25	67	.15	10	.02	4	.00	6	.00	3	.00	9	.04
26	8	.00	10	.01	2	.00	4	.00	3	.00	5	.02
27	2	.00	10	.00	1	.00	4	.00	3	.00	7	.02
28	5	.00	10	.00	1	.00	3	.00	7	.01	13	.04
29	4	.00	8	.00	1	.00	3	.00	---	---	8	.02
30	4	.00	7	.00	1	.00	15	.00	---	---	40	.12
31	4	.00	---	---	1	.00	14	.00	---	---	22	.05
TOTAL	---	0.15	---	0.27	---	0.00	---	0.00	---	0.89	---	2.34
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13	.03	20	.08	450	6.8	85	.22	16	.02	61	.15
2	12	.03	20	.06	195	5.9	17	.03	13	.01	58	.05
3	26	.06	30	.09	52	.81	14	.02	17	.02	37	.03
4	17	.04	31	.09	153	3.5	37	.06	18	.02	633	4.9
5	36	.15	22	.06	68	1.4	24	.04	10	.00	46	.05
6	26	.10	20	.05	384	14	30	.05	178	.41	6	.00
7	26	.09	15	.04	151	5.3	45	.07	148	.41	15	.01
8	17	.05	10	.02	52	1.0	19	.03	38	.06	35	.03
9	33	.12	4	.00	55	.86	14	.02	18	.02	13	.00
10	25	.10	5	.01	36	.43	13	.02	10	.00	8	.00
11	20	.08	52	.18	31	.28	10	.01	9	.00	8	.00
12	25	.09	8	.02	53	.43	8	.00	62	.12	9	.00
13	25	.11	16	.03	28	.19	7	.00	15	.01	4	.00
14	48	.26	23	.04	23	.12	841	.17	12	.00	5	.00
15	31	.15	99	.39	21	.10	55	.10	12	.00	292	1.3
16	31	.14	29	.07	20	.08	78	.21	10	.00	64	.17
17	128	1.6	35	.07	15	.06	27	.05	9	.00	18	.02
18	70	.85	16	.03	14	.05	20	.03	9	.00	10	.00
19	37	.33	378	7.4	13	.04	18	.03	8	.00	7	.00
20	275	6.1	91	2.2	12	.04	40	.06	7	.00	9	.00
21	38	.48	36	.29	31	.09	22	.03	7	.00	7	.00
22	35	.34	30	.19	12	.03	260	.81	8	.00	8	.00
23	84	.85	25	.14	13	.03	39	.05	9	.00	8	.00
24	32	.27	20	.10	12	.02	53	.07	9	.00	6	.00
25	23	.17	24	.10	27	.06	28	.04	8	.00	5	.00
26	10	.06	20	.08	28	.06	12	.01	8	.00	5	.00
27	15	.08	231	2.8	13	.02	13	.01	8	.00	5	.00
28	20	.10	336	13	10	.02	379	1.3	8	.00	5	.00
29	20	.09	96	2.4	9	.01	82	.13	8	.00	5	.00
30	15	.06	60	.62	256	1.5	25	.03	7	.00	6	.00
31	---	---	52	.70	---	---	20	.02	22	.01	---	---
TOTAL	---	12.98	---	31.65	---	43.23	---	20.55	---	1.11	---	6.71
TOTAL LOAD FOR YEAR:			119.88		TONS.							

BIG SANDY RIVER BASIN

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03212567 FREEMAN BRANCH NEAR SKYGUSTY, WV

LOCATION.--Lat 37°16'28", long 81°29'15", McDowell County, Hydrologic Unit 05070201, on right bank 1,000 ft (305 m) upstream from mouth, 0.5 mi (0.8 km) north of Monson, and 8 mi (13 km) southeast of Gary.

DRAINAGE AREA.--0.30 mi² (0.78 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,960.00 ft (597.408 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for January and February, which are poor. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.4 ft³/s (0.10 m³/s) July 14, gage height, 2.14 ft (0.652 m), from rating curve extended above 2.3 ft³/s (0.10 m³/s); no flow several days during year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.01	.03	.02	.04	.07	.08	.24	.87	.17	.07	.03
2	.01	.00	.03	.02	.32	.06	.05	.21	2.0	.10	.07	.03
3	.02	.00	.03	.02	.17	.05	.05	.18	1.1	.07	.07	.03
4	.02	.01	.02	.01	.10	.10	.05	.17	.67	.07	.06	.22
5	.02	.01	.01	.01	.06	.28	.15	.15	.58	.07	.05	.07
6	.01	.01	.01	.01	.04	.33	.12	.15	.83	.17	.12	.04
7	.01	.01	.01	.01	.03	.22	.12	.15	1.4	.20	.13	.04
8	.01	.01	.01	.01	.02	.16	.09	.12	.76	.11	.21	.04
9	.01	.00	.03	.01	.02	.12	.16	.11	.56	.08	.12	.04
10	.01	.01	.05	.01	.05	.10	.22	.12	.47	.07	.08	.04
11	.00	.00	.02	.01	.21	.09	.27	.20	.39	.05	.08	.04
12	.00	.00	.02	.01	.15	.08	.24	.17	.34	.05	.17	.04
13	.00	.01	.02	.01	.08	.07	.42	.15	.31	.05	.09	.03
14	.00	.01	.01	.01	.05	.07	.37	.11	.27	1.5	.07	.02
15	.00	.01	.01	.01	.04	.05	.28	.20	.24	.59	.07	.40
16	.00	.02	.01	.00	.05	.13	.22	.16	.21	.29	.06	.35
17	.00	.05	.02	.00	.20	.11	.41	.14	.19	.18	.05	.16
18	.01	.11	.02	.00	.21	.09	.52	.13	.18	.15	.05	.09
19	.00	.04	.01	.01	.18	.09	.39	1.1	.17	.13	.04	.08
20	.00	.02	.01	.01	.31	.09	1.9	1.3	.15	.20	.04	.07
21	.00	.02	.01	.03	.23	.08	.97	.62	.15	.19	.04	.06
22	.00	.01	.01	.07	.16	.07	.55	.40	.15	.14	.04	.05
23	.00	.01	.01	.04	.18	.12	.50	.31	.12	.11	.04	.04
24	.00	.14	.02	.02	.15	.14	.84	.26	.10	.10	.04	.04
25	.29	.10	.01	.02	.12	.12	.56	.22	.10	.14	.03	.04
26	.12	.05	.01	.03	.09	.12	.39	.20	.17	.11	.03	.04
27	.04	.04	.01	.05	.07	.12	.31	.69	.10	.08	.02	.04
28	.02	.04	.01	.02	.07	.09	.27	2.1	.08	.11	.02	.03
29	.02	.04	.01	.01	---	.09	.24	1.6	.07	.14	.02	.03
30	.01	.03	.02	.01	---	.12	.26	.91	.10	.09	.02	.03
31	.01	---	.02	.02	---	.10	---	.70	---	.08	.02	---
TOTAL	.65	.82	.52	.52	3.40	3.53	11.00	13.27	12.83	5.59	2.02	2.26
MEAN	.021	.027	.017	.017	.12	.11	.37	.43	.43	.18	.065	.075
MAX	.29	.14	.05	.07	.32	.33	1.9	2.1	2.0	1.5	.21	.40
MIN	.00	.00	.01	.00	.02	.05	.05	.11	.07	.05	.02	.02
CFSM	.07	.09	.06	.06	.40	.37	1.23	1.43	1.43	.60	.22	.25
IN.†	.08	.10	.06	.06	.42	.44	1.36	1.64	1.59	.69	.25	.28
IN.‡	1.87	1.98	.93	.65	2.94	2.29	4.66	6.54	2.59	4.15	2.35	4.60

WTR YR 1981 TOTAL 56.41 MEAN .15 MAX 2.1 MIN .00 CFSM .50 IN 6.97

† Runoff.

‡ Rainfall.

03212567 FREEMAN BRANCH NEAR SKYGUSTY, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: October 1980 to September 1981 (discontinued).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 629 mg/L July 14; minimum daily mean detected, 1 mg/L Mar. 9, 10.

SEDIMENT LOADS: Maximum daily, 3.9 tons (3.5 metric tons) July 14; minimum daily, 0 ton (0 metric ton) many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT											
28...	1520	.02	490	6.8	12.5	8.9	--	--	--	--	--
NOV											
17...	1430	.07	--	6.3	7.0	--	--	--	--	--	--
DEC											
16...	1350	.01	--	6.9	4.5	--	--	--	--	--	--
JAN											
21...	1000	.02	--	6.7	.0	--	--	--	--	--	--
FEB											
09...	1405	.04	462	7.0	.0	11.9	210	190	<.1	39	27
MAR											
02...	1525	.09	474	7.0	6.0	7.6	190	170	--	33	26
24...	0910	.15	446	7.0	4.0	11.2	160	140	.0	25	23
APR											
13...	1330	.49	343	7.0	15.5	11.9	130	120	--	24	18
MAY											
04...	1330	.15	523	7.4	17.0	7.6	210	190	--	38	27
19...	1455	1.3	275	6.7	--	--	--	--	--	--	--
JUN											
03...	1630	.94	404	7.2	16.5	9.4	150	140	--	29	19
29...	1345	.40	670	7.5	19.5	--	260	240	--	50	33
JUL											
15...	1320	.54	430	7.4	19.0	--	190	170	--	38	24
AUG											
05...	1355	.05	500	7.8	22.0	6.5	260	240	--	51	33
SEP											
01...	1350	.02	590	7.9	20.0	--	250	220	--	47	32
23...	1025	.04	500	7.2	13.0	--	--	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
FEB											
09...	6.4	--	.2	--	21	200	1.4	--	--	--	--
MAR											
02...	6.5	--	.2	--	19	190	1.1	--	--	--	--
24...	6.5	--	.2	--	16	180	1.0	--	--	--	--
APR											
13...	5.3	--	.2	--	11	140	1.0	--	--	--	--
MAY											
04...	7.0	--	.2	--	17	200	1.1	--	--	--	--
JUN											
03...	3.8	--	.1	--	14	140	1.1	--	--	--	--
29...	7.4	--	.2	--	22	250	1.0	--	--	449	--
JUL											
15...	5.5	--	.2	--	18	170	--	--	--	280	--
AUG											
05...	7.5	--	.2	--	25	200	--	--	--	382	--
SEP											
01...	7.4	6	.2	4.9	30	210	2.4	<.1	7.9	415	330

03212567 FREEMAN BRANCH NEAR SKYGUSTY, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS I)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 02...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
APR 13...	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--	--
JUN 03...	--	--	--	--	--	--	--	--	--	--	--
29...	.61	.48	--	--	--	--	--	--	--	--	--
JUL 15...	.38	.41	--	--	--	--	--	--	--	--	--
AUG 05...	.52	.05	--	--	--	--	--	--	--	--	--
SEP 01...	.56	.02	<.010	.33	.010	<.010	1	<1	100	2	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)
FEB 09...	--	--	--	--	290	--	<10	--	--	--
MAR 02...	--	--	--	--	120	110	10	--	--	--
24...	--	--	--	--	110	--	<10	--	--	--
APR 13...	--	--	--	--	2800	2800	20	--	--	--
MAY 04...	--	--	--	--	340	--	<10	--	--	--
JUN 03...	--	--	--	--	1400	--	<10	--	--	--
29...	--	--	--	--	260	--	<10	--	--	--
JUL 15...	--	--	--	--	2000	2000	10	--	--	--
AUG 05...	--	--	--	--	190	0	220	--	--	--
SEP 01...	20	4	20	2	230	--	--	7900	15	12

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CYANIDE TOTAL (MG/L AS CN)
FEB 09...	20	20	4	--	--	--	--	--	--	--	--
MAR 02...	10	6	4	--	--	--	--	--	--	--	--
24...	20	10	10	--	--	--	--	--	--	--	--
APR 13...	470	440	30	--	--	--	--	--	--	--	--
MAY 04...	50	50	4	--	--	--	--	--	--	--	--
JUN 03...	250	90	160	--	--	--	--	--	--	--	--
29...	50	50	3	--	--	--	--	--	--	--	--
JUL 15...	320	130	190	--	--	--	--	--	--	--	--
AUG 05...	40	0	40	--	--	--	--	--	--	--	--
SEP 01...	30	--	--	1500	<.1	<.01	<1	<1	<1	87	<.01

03212567 FREEMAN BRANCH NEAR SKYGUSTY, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1		.00		.00		.00		.00	6	.00	19	.00
2		.00		.00		.00		.00	25	.02	9	.00
3		.00		.00		.00		.00	7	.00	2	.00
4		.00		.00		.00		.00	5	.00	12	.00
5		.00		.00		.00		.00	5	.00	35	.03
6		.00		.00		.00		.00	5	.00	21	.02
7		.00		.00		.00		.00	5	.00	7	.00
8		.00		.00		.00		.00	4	.00	4	.00
9		.00		.00		.00		.00	4	.00	1	.00
10		.00		.00		.00		.00	9	.00	1	.00
11		.00		.00		.00		.00	10	.00	2	.00
12		.00		.00		.00		.00		.00	4	.00
13		.00		.00		.00		.00		.00	3	.00
14		.00		.00		.00		.00		.00	4	.00
15		.00		.00		.00		.00		.00	8	.00
16		.00		.00		.00		.00		.00	15	.00
17		.00		.00		.00		.00	15	.00	7	.00
18		.00		.00		.00		.00	7	.00	7	.00
19		.00		.00		.00		.00	3	.00	8	.00
20		.00		.00		.00		.00	29	.02	6	.00
21		.00		.00		.00		.00	26	.02	4	.00
22		.00		.00		.00		.00	25	.01	5	.00
23		.00		.00		.00		.00	27	.01	11	.00
24		.00		.00		.00		.00	26	.01	15	.00
25	219	.18		.00		.00		.00	25	.00	12	.00
26	20	.00		.00		.00		.00	24	.00	10	.00
27	5	.00		.00		.00		.00	24	.00	10	.00
28	2	.00		.00		.00		.00	23	.00	8	.00
29	3	.00		.00		.00		.00	---	---	6	.00
30	2	.00		.00		.00		.00	---	---	4	.00
31	2	.00		.00		.00		.00	---	---	3	.00
TOTAL	---	0.18		0.00		0.00		0.00	---	0.09	---	0.05
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	5	.00	25	.02	258	1.1	32	.01	11	.00	35	.00
2	3	.00	30	.02	265	1.5	9	.00	8	.00	13	.00
3	3	.00	10	.00	32	.10	8	.00	8	.00	13	.00
4	13	.00	10	.00	26	.05	8	.00	8	.00	51	.03
5	41	.02	10	.00	26	.04	6	.00	4	.00	13	.00
6	16	.00	10	.00	114	.47	141	.13	24	.00	10	.00
7	4	.00	9	.00	77	.32	31	.02	172	.12	10	.00
8	8	.00	8	.00	34	.07	17	.00	190	.11	10	.00
9	36	.22	11	.00	24	.04	12	.00	60	.02	10	.00
10	47	.03	13	.00	21	.03	10	.00	18	.00	7	.00
11	57	.04	15	.00	20	.02	9	.00	14	.00	6	.00
12	25	.02	10	.00	19	.02	9	.00	20	.00	4	.00
13	105	.14	7	.00	16	.01	8	.00	12	.00	3	.00
14	85	.08	8	.00	14	.01	629	3.9	8	.00	1	.00
15	55	.04	10	.00	15	.00	90	.14	7	.00	214	.36
16	42	.02	10	.00	15	.00	36	.03	6	.00	70	.07
17	97	.11	10	.00	11	.00	26	.01	6	.00	25	.01
18	85	.12	17	.00	10	.00	30	.01	5	.00	19	.00
19	35	.04	179	.60	11	.00	22	.00	5	.00	17	.00
20	242	1.4	75	.30	11	.00	96	.08	5	.00	12	.00
21	67	.19	30	.05	11	.00	21	.01	5	.00	8	.00
22	58	.09	23	.02	11	.00	15	.00	5	.00	7	.00
23	102	.22	21	.02	11	.00	15	.00	5	.00	8	.00
24	70	.16	19	.01	9	.00	22	.00	5	.00	5	.00
25	27	.04	18	.01	12	.00	26	.00	4	.00	4	.00
26	20	.02	17	.00	14	.00	15	.00	4	.00	4	.00
27	19	.02	110	.32	12	.00	12	.00	2	.00	3	.00
28	17	.01	200	1.3	11	.00	20	.00	2	.00	3	.00
29	15	.00	100	.43	9	.00	22	.00	3	.00	3	.00
30	25	.02	54	.13	47	.03	17	.00	3	.00	3	.00
31	---	---	27	.05	---	---	14	.00	3	.00	---	---
TOTAL	---	2.84	---	3.23	---	3.81	---	4.34	---	0.25	---	0.47
TOTAL LOAD FOR YEAR:		15.31 TONS.										

03212580 LEFT FORK SANDLICK CREEK AT ELBERT, WV

LOCATION.--Lat 37°20'08", long 81°31'39", McDowell County, Hydrologic Unit 05070201, on right bank 0.7 mi (1.1 km) upstream from mouth, and 0.7 (1.1 km) east of Elbert.

DRAINAGE AREA.--1.78 mi² (4.61 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,610.00 ft (490.728 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft³/s (0.42 m³/s) June 1, gage height, 2.45 ft (0.747 m) from rating curve extended above 12 ft³/s (0.34 m³/s); minimum daily, 0.05 ft³/s (0.001 m³/s) Jan. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.19	.33	.22	.18	.77	.66	2.9	8.3	2.1	.55	.41
2	.24	.19	.29	.22	.89	.62	.63	2.6	12	1.3	.55	.50
3	.27	.18	.27	.19	.55	.54	.61	2.4	9.8	1.1	.53	1.3
4	.22	.23	.26	.15	.40	.81	.55	2.2	9.6	1.1	.49	1.5
5	.22	.21	.25	.08	.26	1.6	1.2	2.0	9.4	1.0	.47	.64
6	.21	.19	.23	.05	.29	1.5	.98	1.9	9.1	1.1	.95	.44
7	.19	.19	.22	.19	.30	1.1	.83	1.7	11	.99	1.0	.38
8	.19	.17	.22	.19	.31	.90	.76	1.6	9.1	.85	1.6	.37
9	.19	.18	.31	.19	.29	.78	1.1	1.5	8.2	.75	.71	.38
10	.19	.19	.31	.16	.29	.70	1.5	1.4	7.4	.69	.55	.33
11	.18	.17	.26	.14	.49	.67	1.8	2.0	6.7	.66	.49	.30
12	.16	.16	.22	.12	.34	.61	1.5	1.5	6.2	.59	1.4	.29
13	.16	.16	.22	.14	.29	.57	1.9	1.3	5.5	.58	.68	.28
14	.18	.17	.22	.19	.24	.56	1.9	1.2	4.4	4.6	.53	.26
15	.16	.19	.22	.19	.22	.50	1.8	1.8	3.7	1.7	.49	1.3
16	.16	.21	.22	.19	.27	.83	1.7	1.2	3.2	2.1	.48	1.5
17	.16	.32	.21	.16	.70	.68	3.2	1.1	2.9	1.4	.45	.61
18	.20	.55	.19	.23	.72	.60	3.5	1.1	2.6	1.1	.42	.45
19	.22	.29	.19	.26	.74	.62	2.9	4.5	2.3	.94	.40	.40
20	.18	.22	.17	.17	1.5	.56	7.1	5.6	2.2	1.0	.38	.38
21	.16	.20	.15	.26	1.1	.56	6.2	3.2	2.0	.91	.35	.35
22	.16	.19	.13	.23	.80	.55	5.9	2.8	1.9	.92	.35	.35
23	.16	.22	.12	.20	1.2	.73	5.6	2.7	1.6	.69	.35	.33
24	.16	1.1	.29	.19	1.1	.74	5.5	2.6	1.5	.82	.35	.30
25	1.3	.70	.20	.19	.82	.67	4.6	2.5	1.9	1.6	.33	.30
26	.50	.41	.12	.19	.64	.62	4.1	2.3	1.9	.79	.32	.30
27	.27	.35	.16	.21	.53	.62	3.9	4.4	1.3	.66	.30	.29
28	.22	.46	.17	.19	.55	.62	3.6	7.9	1.2	1.0	.30	.28
29	.22	.44	.19	.16	---	.55	3.5	7.4	1.1	1.2	.30	.27
30	.21	.38	.28	.14	---	.64	3.3	6.8	1.6	.74	.30	.26
31	.19	---	.26	.12	---	.64	---	6.5	---	.60	.31	---
TOTAL	7.45	8.81	6.88	5.51	16.01	22.46	82.32	90.6	149.6	35.58	16.68	15.05
MEAN	.24	.29	.22	.18	.57	.72	2.74	2.92	4.99	1.15	.54	.50
MAX	1.3	1.1	.33	.26	1.5	1.6	7.1	7.9	12	4.6	1.6	1.5
MIN	.16	.16	.12	.05	.18	.50	.55	1.1	1.1	.58	.30	.26
CFSM	.14	.16	.12	.10	.32	.40	1.54	1.64	2.80	.65	.30	.28
IN.†	.16	.18	.14	.12	.33	.47	1.72	1.89	3.12	.74	.35	.31
IN.‡	1.88	2.47	1.06	.79	2.79	1.90	4.36	5.56	5.53	4.71	2.28	3.78

WTR YR 1981 TOTAL 456.95 MEAN 1.25 MAX 12 MIN .05 CFSM .70 IN 9.54

† Runoff.

‡ Rainfall.

BIG SANDY RIVER BASIN

03212580 LEFT FORK SANDLICK CREEK AT ELBERT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: October 1980 to September 1981 (discontinued).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 98 mg/L Sept. 3; minimum daily mean, 0 mg/L several days during year.

SEDIMENT LOADS: Maximum daily, 1.3 tons (1.2 metric tons) June 1; minimum daily, 0 ton (0 metric ton) many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT												
21...	1425	.16	--	--	13.0	--	--	--	--	--	--	--
NOV												
18...	0855	.61	--	5.3	6.0	--	--	--	--	--	--	--
DEC												
16...	0910	.24	--	5.6	4.5	--	--	--	--	--	--	--
JAN												
13...	1235	.14	--	5.7	--	--	--	--	--	--	--	--
FEB												
10...	0940	.24	810	5.8	1.0	10.6	390	390	.1	80	46	7.8
MAR												
03...	0955	.55	723	5.3	4.0	8.3	310	310	.1	62	38	5.8
17...	0920	.70	795	4.6	3.0	11.6	--	--	--	--	--	--
23...	1230	.68	881	4.7	5.5	11.1	370	370	<.1	72	46	7.0
APR												
07...	0940	.80	879	4.7	8.0	10.5	400	400	--	80	49	7.4
28...	1325	3.7	1110	4.4	18.5	8.7	450	--	.8	91	55	7.6
MAY												
19...	1300	6.2	715	4.6	--	--	--	--	--	--	--	--
28...	1102	10	683	4.7	15.0	9.5	270	270	.4	57	31	3.6
JUN												
03...	1340	12	--	--	16.0	--	--	--	--	--	--	--
18...	1035	2.6	1760	4.4	18.5	--	470	--	.9	94	57	8.0
JUL												
15...	1040	1.4	800	4.7	21.0	--	390	390	.4	84	44	6.6
29...	0945	1.3	795	4.9	22.5	--	400	400	--	86	45	6.7
AUG												
19...	0900	.40	875	4.8	17.0	--	410	410	.3	86	48	7.5
SEP												
09...	1240	.40	850	5.0	18.0	--	--	--	--	--	--	--
DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
FEB												
10...	--	.2	--	2	400	1.1	--	--	--	--	--	--
MAR												
03...	--	.1	--	2	340	.8	--	--	--	--	--	--
23...	--	.2	--	1	420	.6	--	--	--	--	--	--
APR												
07...	--	.2	--	1	430	.5	--	--	--	--	--	--
28...	--	.2	--	--	530	.3	--	--	--	--	--	--
MAY												
28...	--	.1	--	1	330	3.2	--	--	--	--	--	--
JUN												
18...	--	.2	--	--	480	.4	--	--	786	--	1.0	5.5
JUL												
15...	--	.1	--	0	370	--	--	--	592	--	.81	2.8
29...	--	.1	--	1	260	--	--	--	600	--	.82	2.1
AUG												
19...	4	.2	3.5	2	420	.7	.2	17	683	584	.93	.74

03212580 LEFT FORK SANDLICK CREEK AT ELBERT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)
FEB												
10...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
03...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
19...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
15...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
19...	<.010	.11	.050	<.010	1	5	<50	1	<1	<10	<10	20

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FEB											
10...	--	--	1200	260	940	--	--	--	3400	0	3800
MAR											
03...	--	--	430	10	420	--	--	--	2700	0	2900
23...	--	--	970	630	340	--	--	--	3600	1100	2500
APR											
07...	--	--	390	110	280	--	--	--	3300	0	3400
28...	--	--	300	150	150	--	--	--	3100	300	2800
MAY											
19...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	760	670	90	--	--	--	2100	200	1900
JUN											
18...	--	--	360	70	290	--	--	--	3200	0	3400
JUL											
15...	--	--	580	130	450	--	--	--	3100	0	3700
29...	--	--	650	190	460	--	--	--	3100	0	3700
AUG											
19...	16	20	550	--	--	21000	4	60	3100	--	--

DATE	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
FEB											
10...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
MAY											
19...	--	--	--	--	--	--	--	--	--	4	.07
28...	--	--	--	--	--	--	--	--	--	--	--
JUN											
18...	--	--	--	--	--	--	--	--	--	--	--
JUL											
15...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
AUG											
19...	310	<.1	<.01	<1	<1	<1	220	44	<.01	--	--

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	
OCTOBER																				
1	2	.00	1	.00	1	.00	17	.01	9	.00	3	.00								
2	2	.00	2	.00	1	.00	27	.02	13	.03	12	.02								
3	2	.00	1	.00	2	.00	25	.01	5	.00	1	.00								
4	2	.00	1	.00	1	.00	17	.00	3	.00	29	.09								
5	2	.00	1	.00	1	.00	10	.00	3	.00	4	.02								
6	2	.00	1	.00	4	.00	7	.00	4	.00	16	.06								
7	2	.00	1	.00	6	.00	14	.00	5	.00	5	.01								
8	2	.00	1	.00	4	.00	14	.00	7	.00	2	.00								
9	1	.00	6	.00	23	.02	13	.00	9	.00	14	.03								
10	1	.00	2	.00	5	.00	32	.01	14	.01	5	.00								
11	1	.00	1	.00	3	.00	32	.01	6	.00	3	.00								
12	1	.00	1	.00	3	.00	19	.00	1	.00	3	.00								
13	1	.00	0	.00	3	.00	9	.00	1	.00	6	.00								
14	1	.00	1	.00	5	.00	29	.01	1	.00	8	.01								
15	1	.00	2	.00	7	.00	29	.01	1	.00	7	.00								
16	1	.00	3	.00	3	.00	13	.00	19	.01	8	.02								
17	1	.00	26	.03	2	.00	10	.00	21	.04	3	.00								
18	2	.00	25	.05	6	.00	12	.00	2	.00	15	.02								
19	1	.00	2	.00	14	.00	14	.00	2	.00	22	.04								
20	2	.00	3	.00	15	.00	17	.00	14	.06	13	.02								
21	0	.00	2	.00	13	.00	43	.03	2	.00	10	.02								
22	1	.00	1	.00	9	.00	15	.00	1	.00	10	.01								
23	0	.00	21	.01	21	.00	11	.00	5	.02	25	.05								
24	0	.00	88	.26	32	.03	11	.00	2	.00	13	.03								
25	61	.24	3	.00	9	.00	11	.00	3	.00	5	.00								
26	3	.00	1	.00	5	.00	11	.00	3	.00	2	.00								
27	1	.00	6	.00	6	.00	11	.00	2	.00	0	.00								
28	4	.00	11	.01	8	.00	11	.00	2	.00	1	.00								
29	1	.00	5	.00	18	.00	11	.00	---	---	1	.00								
30	1	.00	2	.00	13	.00	10	.00	---	---	2	.00								
31	0	.00	---	---	13	.00	9	.00	---	---	3	.00								
TOTAL	---	0.24	---	0.36	---	0.05	---	0.11	---	0.17	---	0.45								
APRIL																				
1	1	.00	12	.09	40	1.3	14	.12	4	.00	6	.00								
2	1	.00	10	.07	34	1.1	2	.00	3	.00	9	.01								
3	1	.00	9	.06	7	.19	2	.00	2	.00	98	.62								
4	5	.00	9	.05	18	.47	8	.02	3	.00	19	.08								
5	36	.13	12	.06	7	.18	4	.01	1	.00	5	.00								
6	11	.03	18	.09	33	1.1	22	.07	21	.06	4	.00								
7	3	.00	19	.09	25	.83	5	.01	26	.14	9	.00								
8	8	.02	18	.08	4	.10	1	.00	8	.04	10	.00								
9	14	.04	15	.06	4	.09	1	.00	4	.00	3	.00								
10	51	.27	13	.05	4	.08	4	.00	3	.00	1	.00								
11	11	.05	30	.18	4	.07	5	.00	3	.00	2	.00								
12	8	.03	14	.06	2	.03	3	.00	57	.27	1	.00								
13	31	.16	8	.03	3	.04	1	.00	5	.00	0	.00								
14	9	.05	4	.01	2	.02	40	.84	4	.00	1	.00								
15	6	.03	13	.08	1	.00	1	.00	4	.00	60	.29								
16	4	.02	0	.00	1	.00	21	.13	7	.00	3	.01								
17	48	.51	0	.00	4	.03	1	.00	10	.01	1	.00								
18	22	.21	1	.00	4	.03	0	.00	10	.01	1	.00								
19	10	.08	64	1.0	0	.00	0	.00	6	.00	1	.00								
20	48	.99	4	.07	1	.00	6	.02	6	.00	2	.00								
21	8	.13	8	.07	2	.01	3	.00	7	.00	2	.00								
22	6	.10	12	.09	1	.00	0	.00	4	.00	2	.00								
23	4	.06	12	.09	1	.00	0	.00	7	.00	2	.00								
24	2	.03	12	.08	2	.00	51	.31	10	.00	1	.00								
25	3	.04	13	.09	29	.21	43	.24	8	.00	0	.00								
26	7	.08	16	.10	22	.13	2	.00	5	.00	0	.00								
27	8	.08	35	.43	2	.00	2	.00	7	.00	1	.00								
28	12	.12	17	.38	2	.00	83	.37	19	.02	1	.00								
29	13	.12	6	.12	2	.00	24	.10	17	.01	1	.00								
30	17	.15	9	.17	29	.25	5	.00	10	.00	1	.00								
31	---	---	10	.18	---	---	5	.00	7	.00	---	---								
TOTAL	---	3.53	---	3.93	---	6.26	---	2.24	---	0.56	---	1.01								
TOTAL LOAD FOR YEAR:		18.91 TONS.																		

BIG SANDY RIVER BASIN

395

03212585 RIGHT FORK SANDLICK CREEK NEAR GARY, WV

LOCATION.--Lat 37°20'51", long 81°34'01", McDowell County, Hydrologic Unit 05070201, on left bank 1.3 mi (2.1 km) upstream from mouth and 1.5 mi (2.4 km) southwest of Gary.

DRAINAGE AREA.--1.21 mi² (3.13 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,640.00 ft (499.872 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 26 ft³/s (0.03 m³/s) June 6, gage height, 2.49 ft (0.759 m) from rating curve extended above 14 ft³/s (0.40 m³/s); no flow many days during year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.22	.23	.60	4.7	.18	.00	.02
2	.00	.00	.00	.00	.25	.17	.17	.50	12	.04	.00	.00
3	.00	.00	.00	.00	.20	.14	.15	.43	6.9	.01	.00	.01
4	.00	.00	.00	.00	.10	.28	.16	.37	6.4	.05	.00	.07
5	.00	.00	.00	.00	.05	.68	.34	.33	7.2	.01	.00	.00
6	.00	.00	.00	.00	.03	.84	.29	.30	9.0	.12	.04	.00
7	.00	.00	.00	.00	.01	.66	.29	.26	16	.01	.18	.00
8	.00	.00	.00	.00	.01	.45	.27	.21	7.5	.00	.29	.00
9	.00	.00	.00	.00	.00	.34	.34	.18	4.4	.00	.04	.00
10	.00	.00	.00	.00	.01	.28	.81	.14	2.9	.00	.01	.00
11	.00	.00	.00	.00	.01	.24	1.5	.29	1.9	.00	.00	.00
12	.00	.00	.00	.00	.00	.19	1.1	.16	1.5	.00	.17	.00
13	.00	.00	.00	.00	.00	.17	1.3	.12	1.2	.00	.01	.00
14	.00	.00	.00	.00	.00	.13	1.3	.09	.86	.95	.00	.00
15	.00	.00	.00	.00	.00	.11	1.0	.19	.68	.19	.00	.13
16	.00	.00	.00	.00	.00	.25	.88	.08	.56	.27	.00	.01
17	.00	.00	.00	.00	.00	.18	1.6	.05	.49	.13	.00	.00
18	.00	.00	.00	.00	.00	.15	2.4	.04	.40	.05	.00	.00
19	.00	.00	.00	.00	.00	.18	2.2	2.8	.34	.01	.00	.00
20	.00	.00	.00	.00	.29	.17	7.6	4.3	.28	.01	.00	.00
21	.00	.00	.00	.00	.53	.16	5.4	1.7	.29	.00	.00	.00
22	.00	.00	.00	.00	.36	.16	3.7	1.2	.23	.03	.00	.00
23	.00	.00	.00	.00	.46	.23	2.9	.92	.16	.00	.00	.00
24	.00	.07	.00	.00	.45	.25	2.3	.73	.13	.01	.00	.00
25	.00	.04	.00	.00	.36	.32	1.7	.59	.13	.01	.00	.00
26	.00	.01	.00	.00	.26	.33	1.3	.49	.14	.00	.00	.00
27	.00	.01	.00	.01	.19	.33	1.1	1.5	.06	.00	.00	.00
28	.00	.01	.00	.00	.20	.28	.91	5.8	.03	.11	.00	.00
29	.00	.01	.00	.00	---	.26	.80	6.2	.08	.02	.00	.00
30	.00	.00	.00	.00	---	.29	.73	4.0	.28	.00	.00	.00
31	.00	---	.00	.00	---	.22	---	2.7	---	.00	.00	---
TOTAL	.00	.15	.00	.01	3.77	8.66	44.77	37.27	86.74	2.21	.74	.24
MEAN	.000	.005	.000	.000	.13	.28	1.49	1.20	2.89	.071	.024	.008
MAX	.00	.07	.00	.01	.53	.84	7.6	6.2	16	.95	.29	.13
MIN	.00	.00	.00	.00	.00	.11	.15	.04	.03	.00	.00	.00
CFSM	.000	.004	.000	.000	.11	.23	1.23	.99	2.39	.06	.02	.007
IN.†	.00	.00	.00	.00	.12	.27	1.38	1.14	2.66	.07	.02	.01
IN.‡	2.11	2.69	1.05	0.72	3.34	2.10	4.58	5.64	6.15	4.87	3.04	2.91

WTR YR 1981 TOTAL 184.56 MEAN .51 MAX 16 MIN .00 CFSM .42 IN 5.67

† Runoff.

‡ Rainfall.

BIG SANDY RIVER BASIN

03212585 RIGHT FORK SANDLICK CREEK NEAR GARY, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: October 1980 to September 1981 (discontinued).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 529 mg/L May 19; minimum daily mean detected, 0 mg/L Feb. 1, 9.

SEDIMENT LOADS: Maximum daily, 13 tons (12 metric tons) June 6; minimum daily, 0 ton (0 metric ton) many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
JAN						
13...	1040	.00	--	--	--	--
FEB						
04...	1230	.10	174	6.5	.0	9.7
24...	1230	.50	122	6.8	5.0	10.7
MAR						
24...	1510	.26	172	6.8	7.5	10.8
APR						
14...	1150	1.3	161	6.8	13.5	9.2
MAY						
04...	1730	.37	318	7.2	18.0	7.2
19...	1340	2.3	148	7.1	--	--
20...	1400	3.6	--	--	11.5	--
JUN						
03...	1430	6.0	206	7.1	--	--
04...	1140	3.9	242	7.2	13.5	10.4
29...	1600	.01	--	--	21.0	--
JUL						
17...	0920	.15	230	7.4	--	7.9
AUG						
06...	0845	.10	200	7.6	20.0	--
SEP						
01...	1555	.00	--	--	--	--
23...	1240	.00	--	--	--	--

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)
	OCTOBER	NOVEMBER		DECEMBER	JANUARY		FEBRUARY	MARCH							
1		.00		.00		.00		0	.00	140	.08				
2		.00		.00		.00		122	.08	15	.00				
3		.00		.00		.00		6	.00	14	.00				
4		.00		.00		.00		3	.00	170	.17				
5		.00		.00		.00		2	.00	80	.15				
6		.00		.00		.00		2	.00	30	.07				
7		.00		.00		.00		2	.00	17	.03				
8		.00		.00		.00		2	.00	10	.01				
9		.00		.00		.00		0	.00	16	.01				
10		.00		.00		.00		80	.00	21	.02				
11		.00		.00		.00		125	.00	15	.00				
12		.00		.00		.00			.00	6	.00				
13		.00		.00		.00			.00	3	.00				
14		.00		.00		.00			.00	7	.00				
15		.00		.00		.00			.00	5	.00				
16		.00		.00		.00			.00	82	.06				
17		.00		.00		.00			.00	11	.00				
18		.00		.00		.00			.00	4	.00				
19		.00		.00		.00			.00	5	.00				
20		.00		.00		.00		45	.04	4	.00				
21		.00		.00		.00		10	.01	6	.00				
22		.00		.00		.00		2	.00	19	.00				
23		.00		.00		.00		135	.17	26	.02				
24		.00	.03	.00		.00		20	.02	12	.00				
25		.00	.01	.00		.00		6	.00	3	.00				
26		.00	.00	.00		.00		6	.00	2	.00				
27		.00	.00	.00		.00		6	.00	1	.00				
28		.00	.00	.00		.00		60	.03	1	.00				
29		.00	.00	.00		.00		---	---	3	.00				
30		.00	.00	.00		.00		---	---	5	.00				
31		.00		.00		.00		---	---	7	.00				
TOTAL	0.00		0.04	0.00		0.00		---	0.35	---	0.62				
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER					
1	20	.01	7	.01	288	7.7	50	.02		.00	55	.00			
2	7	.00	7	.00	130	4.2	14	.00		.00		.00			
3	3	.00	8	.00	75	1.4	13	.00		.00	24	.00			
4	2	.00	8	.00	209	4.7	101	.03		.00	150	.03			
5	94	.11	9	.00	70	1.4	40	.00		.00		.00			
6	8	.00	9	.00	281	13	100	.03	162	.02		.00			
7	1	.00	14	.00	150	6.5	25	.00	250	.50		.00			
8	1	.00	8	.00	65	1.3		.00	307	.37		.00			
9	16	.01	14	.00	46	.55		.00	37	.00		.00			
10	274	1.3	16	.00	40	.31		.00	6	.00		.00			
11	85	.34	86	.11	34	.17		.00		.00		.00			
12	21	.06	5	.00	100	.59		.00	300	.35		.00			
13	113	.49	6	.00	60	.19		.00	70	.00		.00			
14	24	.15	15	.00	30	.07	501	3.1		.00		.00			
15	18	.05	65	.05	28	.05	40	.02		.00	233	.14			
16	18	.04	6	.00	27	.04	233	.33		.00	117	.00			
17	94	.23	6	.00	26	.03	76	.03		.00		.00			
18	58	.38	5	.00	22	.02	38	.00		.00		.00			
19	49	.29	529	5.4	19	.02	20	.00		.00		.00			
20	421	9.3	61	.94	18	.01	10	.00		.00		.00			
21	110	1.6	13	.06	103	.10		.00		.00		.00			
22	65	.65	8	.03	27	.02	12	.00		.00		.00			
23	113	1.0	7	.02	16	.00		.00		.00		.00			
24	45	.28	6	.01	16	.00	2	.00		.00		.00			
25	22	.10	5	.00	22	.00	3	.00		.00		.00			
26	19	.07	4	.00	26	.00		.00		.00		.00			
27	16	.05	272	1.6	13	.00		.00		.00		.00			
28	17	.04	263	4.2	10	.00	207	.06		.00		.00			
29	22	.05	89	1.5	7	.00	160	.00		.00		.00			
30	35	.07	44	.48	141	.42		.00		.00		.00			
31	---	---	12	.09	---	---		.00		.00		---			
TOTAL	---	16.62	---	14.50	---	42.79	---	3.62	---	1.24	---	0.17			
TOTAL LOAD FOR YEAR:		79.95	TONS.												

BIG SANDY RIVER BASIN
03212600 TUG FORK AT WELCH, WV

LOCATION.--Lat 37°25'00", long 81°35'25", McDowell County, Hydrologic Unit 05070201, on left upstream wingwall of bridge at intersection of U.S. Highway 52, State Highways 16 and 102, 100 ft (30 m) upstream from Little Indian Creek, and at mile 133.8 (215.3 km).

DRAINAGE AREA.--85.9 mi² (222.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to June 1981 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,295.74 ft (394.942 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 2,150 ft³/s (60.9 m³/s) Apr. 30, 1980, gage height, 9.23 ft (2.813 m), from rating curve extended above 1,700 ft³/s (48 m³/s); minimum, 5.0 ft³/s (0.14 m³/s) Nov. 6, 1978, gage height, 1.90 ft (0.579 m).

EXTREMES FOR CURRENT PERIOD.--Water year 1979: Maximum discharge, 1,890 ft³/s (53.5 m³/s) Jan. 21, gage height, 8.60 ft (2.621 m), from rating curve extended above 1,700 ft³/s (48 m³/s); minimum, 5.0 ft³/s (0.14 m³/s) Nov. 6, gage height, 1.90 ft (0.579 m).

Water year 1980: Maximum discharge, 2,150 ft³/s (60.9 m³/s) Apr. 30, gage height, 9.23 ft (2.813 m), from rating curve extended above 1,700 ft³/s (48 m³/s); minimum, 10 ft³/s (0.283 m³/s) July 8, Sept. 19, gage height, 1.95 ft (0.594 m).

October 1980 to June 1981: Maximum discharge during period, 1,160 ft³/s (32.9 m³/s) June 7, gage height, 6.70 ft (2.042 m); minimum daily, 6.6 ft³/s (0.19 m³/s) Jan. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	8.8	17	95	125	370	155	112	76	151	91	31
2	---	9.2	16	375	106	332	155	106	73	131	60	30
3	---	9.2	19	163	98	277	398	104	428	125	50	30
4	---	8.8	36	92	100	252	430	302	312	169	44	30
5	---	12	50	72	85	255	370	345	163	177	41	33
6	---	7.9	28	66	72	240	280	255	115	129	40	59
7	---	12	25	261	81	222	227	200	95	117	39	36
8	---	9.2	34	345	69	202	193	171	85	103	36	30
9	---	8.3	226	189	65	185	200	155	98	104	34	25
10	---	7.9	104	135	61	177	191	141	109	115	27	22
11	---	7.9	50	107	63	240	173	145	131	94	29	16
12	---	11	36	91	58	200	157	202	97	75	51	18
13	---	8.8	24	89	65	179	159	277	76	75	37	18
14	---	11	22	82	64	169	191	275	64	69	31	18
15	---	11	16	70	129	147	185	220	57	75	33	16
16	---	23	19	64	375	127	163	177	58	66	31	18
17	9.7	18	22	61	232	115	145	145	141	58	27	20
18	11	14	16	64	171	112	129	131	86	59	29	21
19	11	12	15	61	139	101	117	121	153	56	46	21
20	12	9.7	19	309	123	98	110	112	155	57	55	19
21	12	10	127	1420	153	94	100	97	159	56	40	43
22	11	7.4	76	640	202	86	97	88	430	56	36	140
23	12	11	50	335	205	97	94	88	526	54	32	38
24	11	11	46	290	434	441	85	117	975	51	31	24
25	12	9.7	98	250	586	372	80	107	643	47	46	19
26	11	11	72	202	497	250	95	106	357	77	57	16
27	11	14	53	181	377	210	215	91	250	106	40	15
28	11	18	38	212	327	185	177	91	197	110	32	23
29	13	19	34	179	---	169	147	76	173	80	37	23
30	11	34	38	151	---	153	127	66	167	65	30	16
31	11	---	64	143	---	143	---	69	---	61	27	---
TOTAL	---	364.8	1490	6794	5062	6200	5345	4692	6449	2768	1239	868
MEAN	---	12.2	48.1	219	181	200	178	151	215	89.3	40.0	28.9
MAX	---	34	226	1420	586	441	430	345	975	177	91	140
MIN	---	7.4	15	61	58	86	80	66	57	47	27	15
CFSM	---	.14	.56	2.55	2.11	2.33	2.07	1.76	2.50	1.04	.47	.34
IN.	---	.16	.65	2.94	2.19	2.68	2.31	2.03	2.79	1.20	.54	.38

BIG SANDY RIVER

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03212600 TUG FORK AT WELCH, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	18	64	56	113	82	183	649	72	17	28	27
2	14	155	59	52	104	86	165	407	57	23	27	23
3	23	125	49	46	92	80	159	310	54	22	28	22
4	21	66	51	46	86	84	265	254	51	21	27	19
5	36	50	51	49	81	131	247	220	48	24	39	18
6	30	43	50	45	81	220	202	190	50	22	48	19
7	22	39	50	52	80	183	177	170	58	16	30	18
8	18	34	47	98	71	165	157	150	53	39	33	17
9	15	36	42	91	78	153	175	126	42	176	26	16
10	111	135	39	82	77	137	155	123	33	465	26	37
11	76	155	38	77	66	139	139	109	30	312	23	24
12	47	171	40	84	68	121	133	96	28	110	25	19
13	39	123	50	85	63	130	129	93	26	372	24	18
14	85	81	54	107	66	160	133	89	21	119	23	19
15	52	64	49	115	80	151	123	80	22	70	22	17
16	40	58	47	113	215	137	125	75	23	54	25	15
17	34	51	42	117	202	163	119	72	25	48	26	16
18	31	47	36	384	141	245	112	107	32	46	29	18
19	23	46	39	442	123	235	107	81	30	39	36	17
20	22	46	38	267	123	200	101	112	26	36	22	13
21	22	43	40	205	133	408	95	222	27	34	24	14
22	23	44	42	257	135	345	88	152	29	93	130	15
23	26	41	38	566	123	267	80	121	28	125	46	25
24	27	50	40	325	112	260	81	134	21	57	34	18
25	24	52	115	258	104	305	78	158	19	46	29	16
26	24	247	141	215	101	267	98	150	24	40	25	17
27	22	159	115	183	97	230	276	112	19	34	22	16
28	23	103	89	161	98	235	292	82	15	45	18	15
29	25	81	78	147	92	230	255	70	13	51	21	13
30	18	71	71	139	---	212	1360	72	16	33	31	13
31	17	---	62	129	---	202	---	71	---	31	38	---
TOTAL	1053	2434	1766	4993	3005	5963	5809	4857	992	2620	985	554
MEAN	34.0	81.1	57.0	161	104	192	194	157	33.1	84.5	31.8	18.5
MAX	111	247	141	566	215	408	1360	649	72	465	130	37
MIN	13	18	36	45	63	80	78	70	13	16	18	13
CFSM	.40	.94	.66	1.87	1.21	2.24	2.26	1.83	.39	.98	.37	.22
IN.	.46	1.05	.76	2.16	1.30	2.58	2.52	2.10	.43	1.13	.43	.24
CAL YR 1979	TOTAL	44670	MEAN	122	MAX	1420	MIN 13	CFSM 1.42	IN 19.34			
WTR YR 1980	TOTAL	35031	MEAN	95.7	MAX	1360	MIN 13	CFSM 1.11	IN 15.17			

BIG SANDY RIVER

03212600 TUG FORK AT WELCH, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.8	17	17	13	45	44	82	265			
2	12	9.2	18	15	55	40	46	72	757			
3	13	11	19	13	43	37	48	67	402			
4	13	11	13	12	29	40	45	62	287			
5	11	14	15	10	27	112	68	59	325			
6	10	14	13	10	24	136	81	55	332			
7	10	13	13	14	22	96	78	52	763			
8	10	10	10	15	22	68	67	49	387			
9	9.6	12	13	12	17	54	67	46	287			
10	9.6	11	20	10	13	46	72	45	230			
11	9.2	10	14	9.0	34	44	121	59	186			
12	9.2	11	14	7.6	28	39	98	53	160			
13	8.0	9.2	11	7.6	27	35	104	46	156			
14	8.8	9.6	10	9.0	32	34	128	44	121			
15	9.2	8.0	9.6	10	25	31	112	61	102			
16	9.2	8.4	9.2	7.0	26	41	99	52	92			
17	9.2	11	12	6.8	46	45	154	46	92			
18	9.2	23	12	6.6	78	45	230	43	78			
19	10	20	9.6	6.6	67	42	174	220	71			
20	11	17	8.8	7.2	119	39	494	414	70			
21	9.6	15	8.8	8.0	104	34	317	194	75			
22	10	10	8.8	17	65	33	224	126	72			
23	10	10	10	14	68	41	190	93	64			
24	10	36	9.6	7.0	69	54	246	77	50			
25	36	44	14	10	59	61	188	70	63			
26	31	28	13	8.8	49	58	148	63	70			
27	16	24	11	11	40	53	123	143	51			
28	14	22	11	18	39	51	104	550	46			
29	15	22	10	11	---	46	96	541	43			
30	13	20	14	11	---	48	89	305	81			
31	10	---	14	11	---	46	---	228	---			
TOTAL	377.8	472.2	385.4	332.2	1240	1594	4055	4017	5778			
MEAN	12.2	15.7	12.4	10.7	44.3	51.4	135	130	193			
MAX	36	44	20	18	119	136	494	550	763			
MIN	8.0	8.0	8.8	6.6	13	31	44	43	43			
CFSM	.14	.18	.14	.13	.52	.60	1.57	1.51	2.25			
IN.	.16	.20	.17	.14	.54	.69	1.76	1.74	2.50			
CAL YR 1980	TOTAL	31013.4	MEAN	84.7	MAX	1360	MIN	8.0	CFSM	.99	IN	13.43

03212600 TUG FORK AT WELCH, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to June 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1979 to September 1980 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: October 1978 to June 1981 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 micromhos June 22, 1980; minimum daily, 135 micromhos Jan. 21, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,530 mg/L July 9, 1980; minimum daily mean, 1 mg/L several days

during 1979, 1980, 1981.

SEDIMENT LOADS: Maximum daily 9,020 tons (8,180 metric tons) Jan. 21, 1979; minimum daily, 0.02 ton (0.02 metric ton) Nov. 4, 1978, Nov. 16, 1980.

EXTREMES FOR 1979 WATER YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily recorded, 841 micromhos Sept. 21; minimum daily recorded, 135 micromhos Jan. 21.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,390 mg/L Jan. 21; minimum daily mean, 1 mg/L Oct. 30, 31, Nov. 4.

SEDIMENT LOADS: Maximum daily, 9,020 tons (8,180 metric tons) Jan. 21; minimum daily, 0.02 ton (0.02 metric ton) Nov. 4.

EXTREMES FOR 1980 WATER YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 micromhos June 22; minimum daily, 187 micromhos Apr. 30.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,530 mg/L July 9; minimum daily mean, 2 mg/L Oct. 25, Feb. 26, June 17, July 21.

SEDIMENT LOADS: Maximum daily, 6,520 tons (5,910 metric tons) Apr. 30; minimum daily, 0.14 ton (0.13 metric ton) June 17.

EXTREMES FOR PERIOD OCTOBER 1980 TO JUNE 1981.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,070 mg/L June 2; minimum daily mean, 1 mg/L Oct. 22, 23, Nov. 16, Jan. 27, Mar. 11.

SEDIMENT LOADS: Maximum daily, 5,790 tons (5,250 metric tons) June 2; minimum daily, 0.02 ton (0.02 metric ton) Nov. 16.

		WATER QUALITY DATA										
		STATION- FLOW- INSTAN- TANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN DISSOLVED (MG/L)	NITROGEN DISSOLVED (MG/L AS N)	COLIFORMS FECAL, 5.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS AS CaCO3	HARDNESS, NONCARBONATE (MG/L CaCO3)
DATE	TIME											
NOV. 1979												
01...	1055	20	--	--	13.0	--	--	--	--	--	--	--
DEC												
12...	1530	46	--	--	7.0	--	--	--	--	--	--	--
13...	1120	46	740	6.3	10.5	--	--	--	--	--	--	--
JAN. 1980												
26...	1130	212	500	7.9	7.0	--	--	--	--	--	--	--
30...	1005	133	580	--	4.0	--	--	--	--	--	--	--
FEB												
25...	1230	100	450	5.8	6.5	--	--	.43	>100	420	180	100
29...	1210	97	640	7.8	4.0	--	--	--	--	--	--	--
MAR												
12...	1105	108	540	8.0	4.5	--	--	--	--	--	--	--
25...	0820	310	370	7.8	4.5	--	--	--	--	--	150	78
28...	1600	255	420	--	9.5	--	--	--	--	--	--	--
APR												
22...	1445	82	640	8.5	16.5	--	6.2	.47	<1300	300	210	95
24...	1410	86	625	8.2	17.5	--	--	--	--	--	--	--
29...	1315	242	410	--	10.0	--	--	--	--	--	--	--
30...	1800	1630	204	--	10.5	--	--	--	--	--	--	--
MAY												
19...	1240	76	643	7.9	18.0	--	--	.50	3100	880	210	90
28...	1540	56	610	8.2	20.0	--	--	--	--	--	--	--
JUN												
05...	1115	50	810	8.2	18.0	--	--	--	--	--	--	--
17...	1200	21	730	8.3	18.5	--	--	.26	2100	170	270	130
26...	1010	28	830	8.1	18.0	--	--	--	--	--	--	--
JUL												
15...	1345	64	520	8.3	24.0	--	--	.77	4600	520	170	60
17...	1115	42	575	8.1	24.0	--	--	--	--	--	--	--
30...	1205	31	600	8.2	22.5	--	--	--	--	--	--	--
AUG												
06...	0940	42	550	8.0	21.0	--	7.9	.59	<2000	<2000	260	95
19...	0950	30	700	8.0	21.0	37	--	--	--	--	260	130
SEP												
04...	1435	17	770	8.4	25.0	--	--	--	--	--	--	--
17...	1620	15	900	7.9	20.5	--	--	--	--	--	--	--
22...	1410	13	840	8.3	24.0	--	10.0	.67	--	--	270	100
OCT												
02...	1440	9.6	720	8.4	18.0	--	--	--	--	--	--	--
10...	1035	7.8	450	--	16.0	--	--	--	--	--	--	--
20...	1350	11	1020	8.4	16.0	--	11.2	.54	<1600	620	<60	54
30...	1645	10	860	8.1	10.5	--	--	--	--	--	--	--
NOV												
13...	1235	9.4	950	8.0	8.5	--	--	--	--	--	--	--
DEC												
02...	1015	15	650	8.0	5.5	--	--	--	--	--	--	--
31...	1400	12	750	8.2	7.0	--	--	--	--	--	--	--
JAN. 1981												
05...	1315	10	776	8.1	8.5	--	--	1.1	<470	600	280	140
07...	1705	11	850	7.8	3.0	--	--	--	--	--	--	--
28...	1555	16	800	8.7	6.5	--	--	--	--	--	--	--
28...	1655	16	930	8.5	6.0	--	--	--	--	--	--	--
FEB												
18...	1125	82	375	7.8	8.0	--	12.0	1.0	>700	1200	140	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

03212600 TUG FORK AT WELCH, WV--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
FEB , 1981												
20...	1055	143	380	7.1	8.0	--	--	--	--	--	--	--
27...	1630	39	370	8.3	9.5	--	--	--	--	--	--	--
APR												
01...	1610	44	340	8.3	15.5	--	--	--	--	--	--	--
09...	1450	65	600	7.3	9.5	--	--	--	--	--	--	--
14...	0925	130	306	7.6	13.5	--	9.8	.86	K17000	9600	110	61
30...	1325	86	600	8.6	16.0	--	--	--	--	--	--	--
JUN												
02...	1445	959	200	7.2	16.0	--	--	--	--	--	--	--
08...	1410	372	460	7.4	16.5	--	9.7	.67	K3800	820	180	120
JUL												
20...	1030	42	740	8.0	22.0	--	--	--	--	--	230	--

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB , 1980											
25...	--	41	19	20	19	.6	23	2.7	80	140	5.6
MAR											
25...	.1	36	14	19	--	.7	--	--	78	99	4.5
APR											
22...	--	48	23	44	30	1.3	--	3.0	120	180	5.3
MAY											
19...	--	48	22	49	33	1.5	--	2.6	110	200	6.6
JUN											
17...	--	62	29	43	25	1.1	--	4.1	140	220	8.3
JUL											
15...	--	40	17	39	33	1.3	--	3.4	110	140	7.2
AUG											
06...	--	49	20	35	27	1.1	--	3.7	120	150	7.7
19...	.0	62	25	46	--	1.4	--	--	134	200	6.9
SEP											
22...	--	63	28	67	34	1.8	--	4.8	170	240	11
OCT											
20...	--	61	27	98	44	2.6	--	5.0	210	250	17
JAN , 1981											
05...	--	67	27	51	28	1.3	--	3.8	140	220	14
28...	--	--	--	--	--	--	--	--	150	--	--
FEB											
18...	--	37	12	24	--	.9	--	--	68	83	11
APR											
14...	--	27	11	10	16	.4	--	2.2	52	77	5.5
JUN											
08...	--	42	18	18	18	.6	--	3.0	58	140	3.3
JUL											
20...	--	56	23	55	--	1.6	--	--	140	190	8.4

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

03212600 TUG FORK AT WELCH, WV--Continued

WATER QUALITY DATA

	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	
FEB , 1980												
25...	990	980	10	4	4	0	--	160	30	130	<.1	
MAR												
25...	6800	6800	30	--	--	--	--	250	160	90	--	
APR												
22...	--	--	10	--	--	--	--	--	--	110	--	
MAY												
19...	--	--	10	--	--	--	--	--	--	110	--	
JUN												
17...	180	170	10	0	0	0	--	60	0	60	<.1	
JUL												
15...	--	--	110	--	--	--	--	--	--	70	--	
AUG												
06...	--	--	40	--	--	--	--	--	--	40	--	
19...	2800	2800	12	--	--	<10	46	120	60	56	--	
SEP												
22...	--	--	20	--	--	--	--	--	--	30	--	
OCT												
20...	240	220	20	0	0	0	--	40	0	40	<.1	
JAN , 1981												
05...	--	--	0	--	--	--	--	--	--	60	--	
FEB												
18...	620	600	20	4	1	3	--	120	50	70	<.1	
APR												
14...	--	--	70	--	--	--	--	--	--	50	--	
JUN												
08...	680	--	<10	3	3	0	--	120	20	100	<.1	
JUL												
20...	390	380	10	--	--	--	--	80	10	70	--	
	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
JAN , 1980												
30...	--	--	--	--	--	--	--	--	--	--	41	15
FEB												
25...	.0	<.1	--	--	--	20	0	30	--	--	--	--
MAR												
12...	--	--	--	--	--	--	--	--	--	--	48	14
25...	--	--	--	--	--	--	--	--	--	120	--	--
APR												
30...	--	--	--	--	--	--	--	--	--	--	1284	5650
JUN												
17...	--	<.1	--	--	--	50	40	8	--	--	--	--
AUG												
19...	--	--	<10	1000	<6.0	--	--	<4	3.8	--	187	15
OCT												
20...	--	<.1	--	--	--	30	30	0	--	--	--	--
FEB , 1981												
18...	--	<.1	--	--	--	30	--	<4	--	--	--	--
JUN												
08...	--	<.1	--	--	--	30	20	10	--	--	--	--

BIG SANDY RIVER BASIN

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03212600 TUG FORK AT WELCH, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	540	275	427	399	507	637	455	767
2				---	530	303	423	417	516	636	589	---
3				---	570	324	258	430	315	708	647	784
4				---	580	354	240	274	233	601	704	789
5				---	580	340	254	227	328	555	661	802
6				---	590	370	297	276	386	672	721	559
7				---	550	378	336	325	462	711	740	632
8				---	562	390	360	353	608	---	756	734
9				---	583	411	350	405	615	699	758	733
10				---	624	410	357	430	624	651	670	687
11				240	590	348	367	445	531	675	697	633
12				254	579	343	386	391	473	687	659	636
13				324	544	384	376	326	529	662	635	650
14				320	625	385	384	309	607	712	701	664
15				339	574	404	379	362	639	657	805	687
16				359	222	422	394	389	681	687	834	725
17				354	267	397	420	401	481	635	815	665
18				354	336	428	436	399	528	751	811	810
19				373	359	423	456	442	517	740	735	832
20				250	454	430	474	434	414	768	572	835
21				135	421	443	478	485	429	720	729	841
22				199	346	457	496	459	283	756	794	394
23				256	348	473	494	489	270	733	806	463
24				269	299	219	504	443	261	729	824	529
25				380	246	242	525	434	320	---	812	564
26				400	248	299	510	435	441	---	568	588
27				370	312	339	293	434	484	---	620	611
28				410	323	385	325	461	531	516	645	563
29				450	---	403	356	458	560	594	605	672
30				470	---	412	383	446	604	609	591	572
31				460	---	418	---	455	---	616	674	---
MEAN					457	374	391	401	473		698	

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	592	466	453	464	568	454	499	362	742	750	730	835
2	640	266	455	400	588	465	541	436	628	950	770	900
3	721	255	457	423	621	451	550	482	794	975	780	808
4	754	319	527	444	580	484	410	540	812	900	805	750
5	691	356	526	444	565	415	391	566	812	750	760	890
6	---	294	466	545	581	304	448	577	885	700	590	855
7	607	409	520	595	542	325	505	592	838	800	720	850
8	647	429	540	443	620	350	551	619	867	850	600	880
9	565	---	483	499	646	362	505	---	833	400	645	832
10	316	378	495	553	645	361	520	659	792	263	765	635
11	319	316	510	529	642	362	528	662	725	300	695	750
12	385	274	550	432	666	443	560	669	784	480	690	872
13	383	327	686	494	707	345	565	460	761	---	770	900
14	---	309	605	410	744	331	523	672	733	---	825	890
15	366	350	628	471	666	321	543	718	812	---	780	855
16	427	388	622	412	428	342	542	727	748	---	910	855
17	459	443	628	417	560	342	570	709	748	600	850	903
18	455	419	560	267	444	347	560	600	950	---	810	878
19	459	440	556	246	729	284	575	655	950	---	688	845
20	487	499	638	339	549	400	580	618	952	---	755	838
21	502	478	658	403	485	338	598	448	898	650	863	830
22	520	495	712	384	497	310	598	548	1020	800	418	790
23	621	471	610	285	491	381	640	537	940	410	582	785
24	651	532	569	381	462	417	630	657	920	---	713	645
25	680	430	393	377	489	382	605	---	908	---	654	700
26	597	294	317	461	573	385	553	580	820	---	788	850
27	703	331	327	457	542	462	342	575	850	725	715	860
28	616	415	337	481	530	339	318	592	850	725	738	790
29	571	348	458	514	---	438	391	643	800	500	765	840
30	---	428	492	542	---	445	187	639	750	580	863	820
31	518	---	488	559	---	460	---	737	---	678	790	---
MEAN			525	441	579	382	511		831		736	824

BIG SANDY RIVER BASIN

03212600 TUG FORK AT WELCH, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	2	.05	49	2.2	121	31	26	8.8	178	178
2	---	---	2	.05	48	2.1	622	630	75	21	217	195
3	---	---	2	.05	77	4.0	226	99	52	14	154	115
4	---	---	1	.02	153	15	97	24	41	11	99	67
5	---	---	5	.16	173	23	87	17	36	8.3	109	75
6	---	---	2	.04	69	5.2	102	18	33	6.4	116	75
7	---	---	6	.19	28	1.9	362	255	19	4.2	72	43
8	---	---	18	.45	56	5.1	327	305	18	3.4	60	33
9	---	---	12	.27	224	137	135	69	42	7.4	48	24
10	---	---	15	.32	104	29	54	20	40	6.6	56	27
11	---	---	19	.41	60	8.1	15	4.3	23	3.9	94	61
12	---	---	23	.68	49	4.8	10	2.5	25	3.9	50	27
13	---	---	18	.43	44	2.9	90	22	19	3.3	48	23
14	---	---	20	.59	40	2.4	81	18	13	2.2	96	44
15	---	---	20	.59	37	1.6	31	5.9	230	145	38	15
16	---	---	32	2.0	47	2.4	24	4.1	443	451	26	8.9
17	2	.05	30	1.5	52	3.1	16	2.6	92	58	22	6.8
18	6	.18	21	.79	44	2.1	97	17	55	25	29	8.8
19	5	.15	19	.62	44	1.8	68	11	39	15	85	23
20	10	.32	17	.45	52	2.7	938	1050	42	14	28	7.4
21	10	.32	12	.32	299	103	2390	9020	83	34	20	5.1
22	6	.18	19	.38	119	24	620	1070	83	45	18	4.2
23	9	.29	30	.89	85	11	177	160	121	67	22	5.8
24	5	.15	27	.80	95	12	158	124	1100	1590	745	987
25	7	.23	30	.79	188	50	121	82	625	989	290	291
26	4	.12	39	1.2	96	19	57	31	349	468	190	128
27	3	.09	25	.95	54	12	54	26	162	165	67	38
28	3	.09	43	2.1	76	7.8	125	72	157	139	40	20
29	5	.18	135	6.9	75	6.9	56	27	---	---	43	20
30	1	.03	142	13	77	7.9	33	13	---	---	31	13
31	1	.03	---	---	89	15	24	9.3	---	---	35	14
TOTAL			---	36.99	---	525.0	---	13239.7	---	4309.4	---	2583.0
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	70	29	96	29	18	3.7	44	18	209	52	53	4.4
2	31	13	15	4.3	14	2.8	69	24	74	12	30	2.4
3	666	496	5	1.4	716	1330	30	10	39	5.3	21	1.7
4	375	462	177	166	360	320	216	119	18	2.1	23	1.9
5	190	140	470	438	67	29	432	196	14	1.5	61	5.4
6	120	91	100	69	25	7.8	148	52	24	2.6	206	33
7	49	30	56	30	14	3.6	52	16	29	3.1	46	4.5
8	25	13	27	12	41	9.4	53	15	30	2.9	28	2.3
9	67	36	52	22	77	28	157	44	31	2.8	22	1.5
10	61	31	35	13	210	65	141	44	25	1.8	11	.65
11	22	10	44	21	190	71	40	10	20	1.6	5	.22
12	13	5.5	188	111	38	10	21	4.3	87	12	4	.19
13	32	14	286	214	22	4.5	76	15	44	4.4	7	.34
14	164	85	166	123	20	3.5	32	6.0	20	1.7	13	.63
15	24	12	63	37	13	2.0	50	10	29	2.6	12	.52
16	11	4.8	40	19	39	6.1	27	4.8	26	2.2	14	.68
17	18	7.0	93	36	425	170	19	3.0	23	1.7	15	.81
18	8	1.7	18	6.4	192	45	22	3.5	26	2.0	11	.62
19	13	4.1	18	5.9	293	127	21	3.2	136	17	6	.34
20	20	5.9	12	3.6	102	43	108	17	167	25	12	.62
21	11	3.0	15	3.9	520	235	15	2.3	86	9.3	38	4.4
22	9	2.4	16	3.8	1060	1260	15	2.3	65	6.3	736	340
23	6	1.5	17	4.0	913	1450	19	2.8	57	4.9	67	6.9
24	5	1.1	132	42	929	2740	18	2.5	34	2.8	36	2.3
25	5	1.1	47	14	590	1020	27	3.4	94	15	18	.92
26	18	6.6	20	5.7	240	231	140	35	55	8.8	20	.86
27	161	91	14	3.4	167	113	187	56	80	8.6	9	.36
28	45	23	14	3.4	65	35	204	65	89	7.7	21	1.9
29	22	8.7	70	14	58	27	76	16	102	10	10	.62
30	17	5.9	14	2.5	47	21	40	7.0	65	5.3	13	.56
31	---	---	10	1.9	---	---	73	19	51	3.7	---	---
TOTAL	---	2045.2	---	1460.2	---	9413.4	---	826.1	---	238.7	---	421.54

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)					
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	TOTAL	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	TOTAL
1	9	.32	4	.19	16	2.8	5	.76	23	7.0	18	4.0								
2	21	.79	567	327	11	1.8	5	.70	18	5.1	11	2.6								
3	14	.87	180	61	22	2.9	6	.75	19	4.7	16	3.5								
4	13	.74	27	4.8	16	2.2	19	2.4	20	4.6	19	4.3								
5	27	2.6	9	1.2	10	1.4	9	1.2	8	1.7	66	23								
6	11	.89	7	.81	6	.81	6	.73	22	4.8	121	72								
7	8	.48	7	.74	5	.68	49	6.9	7	1.5	43	21								
8	5	.24	8	.73	7	.89	243	64	10	1.9	29	13								
9	7	.28	6	.58	5	.57	67	16	24	5.1	74	31								
10	336	118	163	66	8	.84	12	2.7	21	4.4	38	14								
11	122	25	93	39	9	.92	14	2.9	11	2.0	25	9.4								
12	27	3.4	103	48	9	.97	37	8.4	18	3.3	33	11								
13	521	166	42	14	47	6.3	24	5.5	30	5.1	12	4.2								
14	90	21	8	1.7	103	15	44	13	16	2.9	28	12								
15	33	4.6	8	1.4	34	4.5	25	7.8	20	4.3	28	11								
16	14	1.5	17	2.7	14	1.8	22	6.7	422	277	20	7.4								
17	11	1.0	9	1.2	7	.79	83	26	158	86	91	40								
18	8	.67	6	.76	11	1.1	1350	1800	42	16	107	71								
19	6	.37	5	.62	29	3.1	580	692	21	7.0	81	51								
20	9	.53	6	.75	16	1.6	132	95	20	6.6	64	35								
21	6	.36	6	.70	47	5.1	62	34	25	9.0	801	923								
22	4	.25	7	.83	10	1.1	363	361	20	7.3	231	215								
23	5	.35	11	1.2	5	.51	1320	2200	13	4.3	122	88								
24	7	.51	23	14	17	1.8	160	140	16	4.8	107	75								
25	2	.13	26	15	123	38	94	65	21	5.9	167	138								
26	42	2.7	1420	1070	69	26	58	34	2	.55	106	76								
27	12	.71	170	73	24	7.5	46	23	5	1.3	69	43								
28	12	.75	21	5.8	13	3.1	42	18	6	1.6	89	56								
29	12	.81	15	3.3	16	3.4	27	11	3	.75	60	37								
30	8	.39	14	2.7	6	1.2	33	12	---	---	32	18								
31	9	.41	---	---	6	1.0	26	9.1	---	---	46	25								
TOTAL	---	356.65	---	1759.71	---	139.68	---	5660.54	---	486.50	---	2134.4								
1	30	15	625	1100	7	1.4	5	.23	8	.60	20	1.5								
2	20	8.9	244	268	5	.77	19	1.2	5	.36	27	1.7								
3	19	8.2	183	153	15	2.2	25	1.5	4	.30	20	1.2								
4	421	322	66	45	9	1.2	6	.34	7	.51	15	.77								
5	125	83	32	19	4	.52	33	2.1	74	7.8	4	.19								
6	39	21	34	17	5	.68	21	1.2	105	14	7	.36								
7	40	19	30	14	4	.63	6	.26	31	2.5	6	.29								
8	64	27	19	7.7	7	1.0	19	2.0	55	4.9	9	.41								
9	62	29	21	7.1	6	.68	4530	2650	22	1.5	12	.52								
10	24	10	13	4.3	17	1.5	2820	3500	15	1.1	59	5.9								
11	45	17	9	2.6	5	.41	447	529	6	.37	27	1.7								
12	22	7.9	7	1.8	4	.30	71	21	18	1.2	11	.56								
13	11	3.8	29	7.3	4	.28	140	107	25	1.6	11	.53								
14	26	9.3	22	5.3	3	.17	47	15	11	.68	6	.31								
15	35	12	10	2.2	4	.24	26	4.9	7	.42	9	.41								
16	13	4.4	8	1.6	3	.19	20	2.9	8	.54	10	.41								
17	22	7.1	14	2.7	2	.14	18	2.3	47	3.3	9	.39								
18	17	5.1	80	23	11	.95	15	1.9	38	3.0	8	.39								
19	15	4.3	44	9.6	15	1.2	10	1.1	121	12	6	.28								
20	10	2.7	240	106	7	.49	6	.58	22	1.3	8	.28								
21	9	2.3	398	256	7	.51	2	.18	14	.91	7	.26								
22	11	2.6	34	14	6	.47	559	347	929	350	17	.69								
23	10	2.2	26	8.5	6	.45	1100	439	180	22	29	2.0								
24	32	7.0	39	14	4	.23	100	15	37	3.4	10	.49								
25	28	5.9	46	20	7	.36	46	5.7	15	1.2	8	.35								
26	110	29	38	15	104	6.7	18	1.9	14	.95	16	.73								
27	556	486	23	7.0	6	.31	3	.28	10	.59	9	.39								
28	260	205	11	2.4	6	.24	25	3.0	5	.24	14	.57								
29	155	107	9	1.7	12	.42	82	11	8	.45	8	.28								
30	1620	6520	10	1.9	7	.30	23	2.0	22	1.8	6	.21								
31	---	---	9	1.7	---	---	8	.67	38	3.9	---	---								
TOTAL	---	7983.7	---	2139.4	---	24.94	---	7670.24	---	443.42	---	24.07								
TOTAL LOAD FOR YEAR:		28823.25 TONS.																		

03212600 TUG FORK AT WELCH, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		
	OCTOBER	NOVEMBER		DECEMBER	JANUARY		FEBRUARY	MARCH									
1	4	.13		4	.10		4	.18		5	.23		5	.18		14	1.7
2	7	.23		3	.07		5	.24		4	.16		218	.42		7	.76
3	7	.25		4	.12		5	.26		4	.14		235	.27		14	1.4
4	4	.14		4	.12		4	.14		5	.16		96	7.5		87	10
5	5	.15		5	.19		4	.16		5	.16		20	1.5		132	41
6	4	.11		6	.23		4	.14		5	.15		5	.32		88	32
7	5	.14		4	.14		3	.11		5	.18		5	.30		21	5.4
8	4	.11		4	.11		3	.08		5	.16		5	.30		8	1.5
9	3	.08		11	.36		4	.14		5	.15		5	.23		5	.73
10	7	.18		7	.21		4	.22		5	.14		3	.11		4	.50
11	6	.15		2	.05		5	.19		5	.13		23	2.1		1	.12
12	5	.12		2	.06		3	.11		5	.12		34	2.6		4	.42
13	4	.09		3	.07		2	.06		5	.12		16	1.2		6	.57
14	3	.07		8	.21		2	.05		7	.17		4	.35		6	.55
15	3	.07		6	.13		2	.05		4	.11		3	.20		7	.59
16	4	.10		1	.02		3	.07		3	.06		5	.35		27	3.0
17	4	.10		4	.12		3	.10		5	.10		40	5.0		17	2.1
18	4	.10		59	3.7		4	.13		5	.10		58	12		4	.49
19	4	.11		14	.76		4	.10		5	.09		18	3.3		6	.68
20	3	.09		4	.18		4	.10		5	.10		305	110		5	.53
21	2	.05		2	.08		7	.17		2	.04		39	11		7	.64
22	1	.03		4	.11		9	.21		5	.23		18	3.2		6	.53
23	1	.03		2	.05		8	.22		4	.15		33	6.1		4	.44
24	2	.05		47	4.6		7	.18		4	.15		35	6.5		14	2.0
25	92	12		41	4.9		10	.38		5	.14		30	4.8		7	1.2
26	34	2.8		7	.53		16	.56		3	.07		18	2.4		5	.78
27	2	.09		4	.26		15	.45		1	.03		17	1.8		14	2.0
28	2	.08		3	.18		10	.30		5	.24		6	.63		42	5.8
29	2	.08		4	.24		6	.16		6	.18		---	---		7	.87
30	7	.25		4	.22		7	.26		4	.12		---	---		7	.91
31	5	.14		---	---		5	.19		5	.15		---	---		7	.87
TOTAL	---	18.12		---	18.12		---	5.71		---	4.23		---	252.97		---	120.08
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER							
1	11	1.3	22	4.9	1870	2440											
2	12	1.5	5	.97	3070	5790											
3	4	.52	11	2.0	196	213											
4	12	1.5	31	5.2	300	232											
5	42	7.7	15	2.4	174	153											
6	34	7.4	2	.30	265	321											
7	19	4.0	3	.42	640	1350											
8	13	2.4	5	.66	460	481											
9	19	3.4	4	.50	122	95											
10	42	9.7	4	.49	59	37											
11	184	61	24	3.8	39	20											
12	38	10	7	1.0	32	14											
13	81	23	5	.62	80	34											
14	158	55	5	.59	29	9.5											
15	68	21	30	4.9	21	5.8											
16	20	5.3	10	1.4	24	6.0											
17	258	145	5	.62	27	6.7											
18	285	180	2	.23	12	2.5											
19	70	33	495	415	11	2.1											
20	1860	2900	629	889	14	2.6											
21	630	539	80	42	16	3.2											
22	290	175	34	12	22	4.3											
23	103	53	11	2.8	16	2.8											
24	125	83	9	1.9	14	1.9											
25	52	26	10	1.9	18	3.1											
26	29	12	7	1.2	95	18											
27	24	8.0	125	82	17	2.3											
28	23	6.5	684	1240	14	1.7											
29	23	6.0	827	1370	13	1.5											
30	18	4.3	305	251	70	34											
31	---	---	157	97	---	---											
TOTAL	---	4385.52	---	4436.80	---	11288.0											

BIG SANDY RIVER BASIN

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03212700 ELKHORN CREEK AT MAITLAND, WV

LOCATION.--Lat 37°25'47", long 81°33'08", McDowell County, Hydrologic Unit 05070201, on left downstream side of concrete arch bridge on county road at Maitland, 100 ft (30 m) from U.S. Highway 52, 200 ft (61 m) upstream from Mill Creek, 2.3 mi (3.7 km) east of Welch and at mile 2.4 (3.9 km).

DRAINAGE AREA.--69.9 mi² (181.0 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1978 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,317.73 ft (401.644 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,480 ft³/s (41.9 m³/s) July 10, 1980, gage height, 6.79 ft (2.070 m), from rating curve extended above 1,000 ft³/s (28 m³/s); minimum, 12 ft³/s (0.34 m³/s) Nov. 13, 22, 23, 1978; minimum gage height, 1.75 ft (0.533 m) Dec. 19, 1978.

EXTREMES FOR CURRENT PERIOD.--November 1978 to September 1979: Maximum discharge during period, 1,100 ft³/s (31.2 m³/s) June 21, gage height, 5.77 ft (1.759 m); minimum, 12 ft³/s (0.34 m³/s) Nov. 13, 22, 23; minimum gage height, 1.75 ft (0.533 m) Dec. 19.

Water year 1980: Maximum discharge, 1,480 ft³/s (41.9 m³/s) July 10, gage height, 6.79 ft (2.070 m), from rating curve extended above 1,000 ft³/s (28 m³/s); minimum, 33 ft³/s (0.93 m³/s) Sept. 22, 29, 30, gage height, 1.87 ft (0.570 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	19	95	124	342	194	158	126	221	98	59
2		---	17	300	112	336	184	150	120	208	110	58
3		---	25	246	106	309	321	146	186	189	89	58
4		---	44	181	106	291	402	197	194	300	88	54
5		---	47	86	97	327	357	243	162	265	86	68
6		---	25	80	91	309	312	243	148	211	80	82
7		---	23	192	95	279	270	219	138	186	79	59
8		17	46	330	88	259	251	197	132	170	75	56
9		17	189	200	82	235	259	181	132	173	73	54
10		16	82	160	78	227	235	165	128	181	71	51
11		17	44	130	73	230	221	156	146	160	82	49
12		17	31	112	69	211	213	273	122	154	106	47
13		17	24	110	66	197	211	579	114	160	80	46
14		16	22	108	63	194	208	429	108	146	71	49
15		22	19	91	106	178	192	321	102	150	71	49
16		31	18	86	265	165	184	262	100	138	66	47
17		22	20	88	224	160	176	230	150	136	64	46
18		19	17	86	170	152	165	211	114	128	64	44
19		17	17	80	150	148	158	194	254	122	84	46
20		16	20	208	138	144	150	176	221	120	95	44
21		15	98	789	148	134	146	165	666	118	75	97
22		14	68	531	176	130	142	160	780	114	66	118
23		16	46	348	224	138	138	156	693	112	63	64
24		18	47	273	384	348	130	178	750	108	63	49
25		16	86	232	513	411	126	167	615	102	80	42
26		17	68	197	480	309	146	162	447	130	79	39
27		23	52	181	393	265	232	154	351	190	73	37
28		20	41	184	342	238	216	148	285	170	68	52
29		22	34	156	---	216	186	140	254	140	93	47
30		31	37	142	---	200	167	130	240	114	68	44
31		---	70	134	---	189	---	128	---	140	63	---
TOTAL		---	1396	6136	4963	7271	6292	6418	7978	4956	2423	1655
MEAN		---	45.0	198	177	235	210	207	266	160	78.2	55.2
MAX		---	189	789	513	411	402	579	780	300	110	118
MIN		---	17	80	63	130	126	128	100	102	63	37
CFSM		---	.64	2.83	2.53	3.36	3.00	2.96	3.81	2.29	1.12	.79
IN.		---	.74	3.27	2.64	3.87	3.35	3.42	4.25	2.64	1.29	.88

BIG SANDY RIVER BASIN

03212700 ELKHORN CR AT MAITLAND, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	44	85	76	145	119	252	595	134	50	73	47
2	44	116	80	73	136	119	237	454	126	47	72	44
3	44	108	75	70	130	111	223	381	119	48	70	44
4	41	82	72	70	121	111	363	333	111	50	70	43
5	56	71	72	70	113	138	322	292	109	55	73	43
6	47	64	69	67	113	201	270	264	115	51	75	43
7	47	61	70	80	108	204	243	243	111	45	73	44
8	44	56	66	87	104	204	223	220	100	51	66	43
9	42	52	63	83	102	188	237	201	94	104	63	40
10	102	104	63	81	98	171	212	188	90	464	62	60
11	80	116	62	85	92	173	196	178	87	373	64	43
12	68	118	62	96	90	152	193	166	80	178	70	40
13	100	118	72	98	87	156	188	163	76	360	57	40
14	93	108	67	113	87	176	191	152	75	188	53	40
15	79	98	62	115	90	161	178	140	73	138	51	39
16	68	93	62	115	154	161	176	132	72	121	53	38
17	63	86	60	130	161	188	163	130	67	111	52	39
18	56	80	56	360	134	218	161	154	64	104	59	37
19	54	73	56	389	126	220	156	134	63	98	59	35
20	54	70	55	273	128	220	152	240	59	92	52	37
21	52	66	53	223	138	355	145	355	59	90	53	35
22	51	63	53	283	159	373	138	212	59	196	113	40
23	52	63	56	448	154	322	136	186	56	207	62	45
24	51	73	60	355	147	326	134	183	57	119	55	37
25	47	71	102	292	145	363	130	199	59	100	51	40
26	46	159	109	246	145	336	147	191	59	90	48	40
27	46	132	100	218	136	292	270	176	53	89	45	37
28	51	111	89	193	136	299	296	166	53	111	44	37
29	51	98	83	173	128	283	299	156	52	104	44	34
30	47	89	81	161	---	273	876	147	52	85	64	34
31	46	---	78	154	---	273	---	143	---	78	56	---
TOTAL	1763	2643	2193	5277	3607	6886	6907	6874	2384	3997	1902	1218
MEAN	56.9	88.1	70.7	170	124	222	230	222	79.5	129	61.4	40.6
MAX	102	159	109	448	161	373	876	595	134	464	113	60
MIN	41	44	53	67	87	111	130	130	52	45	44	34
CFSM	.81	1.26	1.01	2.43	1.77	3.18	3.29	3.18	1.14	1.85	.88	.58
IN.	.94	1.41	1.17	2.81	1.92	3.66	3.68	3.66	1.27	2.13	1.01	.65
CAL YR 1979	TOTAL	55807	MEAN 153	MAX 795	MIN 37	CFSM 2.19	IN 29.70					
WTR YR 1980	TOTAL	45651	MEAN 125	MAX 876	MIN 34	CFSM 1.79	IN 24.29					

BIG SANDY RIVER BASIN

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03212700 ELKHORN CREEK AT MAITLAND, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1978 to June 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: November 1978 to July 1979 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,560 mg/L June 22, 1979; minimum daily mean, 2 mg/L Nov. 12, 1978.

SEDIMENT LOADS: Maximum daily, 7,590 tons (6,890 metric tons) June 22, 1979; minimum daily, 0.09 ton (0.08 metric ton) Nov. 12, 1978.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT. 1979												
31...	1130	44	--	--	13.0	--	--	--	--	--	--	--
DEC												
12...	1440	63	--	--	10.0	--	--	--	--	--	--	--
13...	1150	70	600	6.5	11.5	--	--	--	--	--	--	--
JAN. 1980												
26...	1155	243	490	7.9	8.0	--	--	--	--	--	--	--
30...	1305	162	500	8.2	5.0	--	--	--	--	--	--	--
FEB												
25...	1105	143	490	7.6	7.5	--	--	.65	4900	K1900	160	8
29...	1230	126	590	8.2	5.5	--	--	--	--	--	--	--
MAR												
12...	1350	162	525	8.6	7.8	--	--	--	--	--	--	--
25...	0900	368	396	8.0	9.0	--	--	--	--	--	150	39
25...	1015	369	--	--	--	--	--	--	--	--	--	--
28...	1530	322	430	--	10.0	--	--	--	--	--	--	--
APR												
22...	1230	132	575	8.7	16.0	--	--	.29	3600	3900	170	0
24...	1100	124	575	8.5	14.5	--	--	--	--	--	--	--
29...	1245	541	360	--	10.5	--	--	--	--	--	--	--
30...	1530	1020	223	--	10.0	--	--	--	--	--	--	--
MAY												
19...	1145	132	594	8.2	16.0	--	--	.47	7300	1100	170	0
28...	1525	166	600	8.4	17.5	--	--	--	--	--	--	--
JUN												
05...	1315	109	650	8.0	16.5	--	--	--	--	--	--	--
17...	1100	66	650	8.0	15.5	--	--	.47	15000	620	180	0
26...	0940	60	680	8.4	16.5	--	--	--	--	--	--	--
JUL												
15...	1215	140	520	8.1	19.0	--	--	.71	K25000	2600	160	0
17...	1255	117	580	7.6	20.5	--	--	--	--	--	--	--
30...	1140	87	580	8.3	18.0	--	--	--	--	--	--	--
AUG												
05...	1300	66	622	8.3	20.0	--	8.6	.20	K6500	620	200	0
19...	0850	64	660	8.3	17.5	15	--	--	--	--	180	0
SEP												
04...	1410	47	750	8.6	21.0	--	--	--	--	--	--	--
17...	1740	40	680	8.0	19.0	--	--	--	--	--	--	--
22...	1130	33	740	8.5	20.0	--	10.4	.23	--	--	180	0
OCT												
20...	1145	27	780	8.7	12.5	--	12.8	.31	3200	190	170	0
JAN. 1981												
05...	1200	K9.0	834	8.5	1.0	--	--	.86	K230	1300	170	0
FEB												
18...	0920	63	560	8.2	7.5	--	11.5	1.1	K6900	1100	180	--
APR												
15...	1310	131	482	7.9	19.0	--	8.5	1.1	4800	K2800	140	0
JUN												
08...	1145	530	400	7.9	15.0	--	10.1	.92	12000	2700	140	46
JUL												
20...	1155	78	720	8.3	21.0	--	--	--	--	--	200	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

03212700 ELKHORN CREEK AT MAITLAND, WV--Continued

WATER QUALITY DATA

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FER . 1990											
25...	--	37	16	42	36	1.5	45	2.5	150	91	5.3
MAR											
25...	..	35	15	29	--	1.0	--	--	111	72	4.6
APR											
22...	--	40	17	59	43	2.0	--	2.9	210	97	3.9
MAY											
19...	--	40	16	60	44	2.0	--	2.3	200	110	4.2
JUN											
17...	--	43	18	74	46	2.4	--	3.1	240	100	4.0
JUL											
15...	--	38	15	42	36	1.5	--	3.1	160	84	4.3
AUG											
05...	--	48	19	65	41	2.0	--	3.3	210	120	4.8
19...	..	43	17	75	--	2.7	--	--	215	110	5.3
SEP											
22...	--	43	18	89	51	2.9	--	2.3	270	120	6.0
OCT											
20...	--	40	17	110	58	3.7	--	3.6	290	110	6.2
JAN . 1991											
05...	--	40	16	120	60	4.1	--	4.0	300	130	8.9
FEB											
18...	--	47	15	50	--	1.6	--	--	150	92	21
APR											
13...	--	34	13	41	39	1.5	--	2.9	150	81	7.5
JUN											
08...	--	34	14	26	28	.9	--	2.9	100	84	4.5
JUL											
20...	--	48	19	80	--	2.5	--	--	240	120	5.4

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOVERABLE (UG/L AS AL)
FER . 1990											
25...	.1	8.0	284	294	110	.37	.050	.23	.28	.020	120
MAR											
25...	--	--	228	--	227	--	--	--	--	--	--
APR											
22...	.1	5.4	330	334	118	.03	.010	.25	.26	.020	--
MAY											
19...	.1	6.4	369	361	132	.40	.030	.04	.07	.020	--
JUN											
17...	.2	7.3	396	395	70.6	.33	.050	.09	.14	.050	40
JUL											
15...	.1	8.4	303	293	115	.42	.000	.29	.29	.030	--
AUG											
05...	.2	7.2	400	394	71.3	.12	.020	.06	.08	.030	--
19...	--	8.8	396	--	68.4	--	--	--	--	--	--
SEP											
22...	.2	7.9	447	450	39.8	.16	.020	.05	.07	.030	--
OCT											
20...	.2	5.2	465	461	33.9	.08	.030	.20	.23	.060	40
JAN . 1991											
05...	.2	6.7	528	512	112.8	.44	.210	.21	.42	.100	--
FEB											
18...	.1	8.4	329	--	56.0	.57	.200	.30	.50	.080	450
APR											
13...	.1	7.6	297	278	105	.49	.060	.55	.61	.040	--
JUN											
08...	.1	8.9	227	233	325	.56	.050	.31	.36	.050	1000
JUL											
20...	--	--	432	--	91.0	--	--	--	--	--	--

BIG SANDY RIVER BASIN

413

03212700 ELKHORN CREEK AT MATTLAND, WV--Continued

WATER QUALITY DATA

DATE	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
FER . 1980											
25...	100	20	--	--	0	0	0	10	0	--	--
MAR											
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
22...	--	100	--	--	--	--	--	--	--	--	--
MAY											
14...	--	100	--	--	--	--	--	--	--	--	--
JUN											
17...	0	40	--	--	0	0	0	10	0	--	--
JUL											
15...	--	100	--	--	--	--	--	--	--	--	--
AUG											
05...	--	100	--	--	--	--	--	--	--	--	--
19...	--	--	60	<0	--	--	4	--	--	<3	<10
SEP											
22...	--	100	--	--	--	--	--	--	--	--	--
OCT											
20...	30	10	--	--	0	0	2	40	0	--	--
JAN . 1981											
05...	--	200	--	--	--	--	--	--	--	--	--
FEB											
18...	400	50	--	--	1	--	<1	10	2	--	--
APR											
13...	--	200	--	--	--	--	--	--	--	--	--
JUN											
08...	950	50	--	--	1	0	2	10	0	--	--
JUL											
20...	--	--	--	--	--	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
FER . 1980											
25...	780	770	10	2	2	0	--	50	30	20	<.1
MAR											
25...	2400	2400	20	--	--	--	--	40	60	20	--
APR											
22...	--	--	20	--	--	--	--	--	--	10	--
MAY											
14...	--	--	10	--	--	--	--	--	--	20	--
JUN											
17...	170	140	30	0	0	0	--	20	0	20	<.1
JUL											
15...	--	--	10	--	--	--	--	--	--	20	--
AUG											
05...	--	--	20	--	--	--	--	--	--	10	--
19...	760	740	16	--	--	<10	82	20	9	11	--
SEP											
22...	--	--	60	--	--	--	--	--	--	10	--
OCT											
20...	170	130	40	0	0	0	--	10	4	6	<.1
JAN . 1981											
05...	--	--	20	--	--	--	--	--	--	20	--
FEB											
18...	990	--	<10	8	4	4	--	70	40	30	<.1
APR											
13...	--	--	80	--	--	--	--	--	--	8	--
JUN											
04...	3200	--	<10	8	8	0	--	90	70	20	<.1
JUL											
20...	360	350	10	--	--	--	--	40	20	20	--

BIG SANDY RIVER BASIN

03212700 ELKHORN CREEK AT MAITLAND, WV--Continued

WATER QUALITY DATA

DATE	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
FEB , 1980												
25...	.0	<.1	--	--	--	20	20	0	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	15	5.1
MAR												
12...	--	--	--	--	--	--	--	--	--	--	31	14
25...	--	--	--	--	--	--	--	--	--	160	--	--
APR												
30...	--	--	--	--	--	--	--	--	--	--	1246	3430
JUN												
17...	--	<.1	--	--	--	30	30	3	--	--	--	--
AUG												
19...	--	--	<10	890	<6.0	--	--	<4	2.5	--	57	9.8
OCT												
20...	--	<.1	--	--	--	20	20	0	--	--	--	--
FEB , 1981												
18...	--	<.1	--	--	--	30	--	<4	--	--	--	--
JUN												
08...	--	<.1	--	--	--	20	--	<4	--	--	--	--

03212700 ELKHORN CREEK AT MAITLAND, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			---	---	250	13	215	56	42	15	144	136
2			---	---	200	9.2	562	472	27	8.5	106	99
3			---	---	250	17	510	342	20	5.9	119	102
4			---	---	1810	215	539	267	25	7.4	117	95
5			---	---	468	59	531	126	44	12	110	100
6			---	---	114	7.7	560	124	53	14	125	107
7			---	---	86	5.3	602	316	44	11	109	84
8			4	.18	302	38	352	316	46	11	30	21
9			13	.60	481	253	119	64	30	6.6	21	14
10			5	.22	210	47	80	35	26	5.5	28	18
11			3	.14	40	4.7	58	20	20	3.9	26	17
12			2	.09	13	1.1	40	12	15	2.8	25	15
13			5	.23	15	.98	31	9.4	17	3.0	22	12
14			7	.30	15	.87	24	7.1	23	3.9	22	12
15			18	1.1	12	.62	27	6.8	342	103	22	11
16			65	6.0	8	.39	30	7.1	645	454	25	12
17			11	.65	8	.44	43	11	198	124	20	9.2
18			7	.36	18	.80	42	10	90	43	20	8.6
19			18	.83	15	.67	27	6.1	60	25	17	7.2
20			16	.69	25	1.4	784	595	212	82	20	8.2
21			9	.36	190	50	3110	6590	---	---	49	19
22			11	.42	110	21	810	1170	---	---	41	15
23			26	1.1	67	8.6	220	210	---	---	85	34
24			27	1.3	49	6.5	168	127	---	---	100	97
25			13	.56	34	8.0	152	98	---	---	65	74
26			15	.69	32	6.0	109	60	---	---	65	56
27			12	.75	23	3.4	144	72	390	423	65	48
28			9	.49	16	1.8	98	50	254	241	71	48
29			246	15	22	2.1	54	23	---	---	71	43
30			300	25	82	8.6	51	20	---	---	68	39
31			---	---	209	40	46	17	---	---	69	38
TOTAL					---	832.17	---	11239.5			---	1399.2
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	66	37	53	25	224	76	716	428				
2	64	34	51	22	115	37	516	290				
3	534	513	41	17	224	113	342	175				
4	200	224	238	137	82	43	819	634				
5	112	112	215	150	54	24	435	311				
6	104	92	125	87	83	33	16	9.1				
7	75	58	83	53	75	28	16	8.0				
8	57	41	81	47	94	34	29	13				
9	131	97	63	34	63	22	19	8.9				
10	82	55	73	36	39	13	14	6.8				
11	66	42	70	32	44	17	56	24				
12	72	44	100	79	56	18	14	5.8				
13	53	32	750	1210	54	20	20	8.6				
14	55	33	455	527	64	19	63	25				
15	81	45	374	324	145	40	22	8.9				
16	78	42	273	193	925	250	49	18				
17	76	39	205	127	1860	753	82	30				
18	56	27	173	94	1950	609	54	19				
19	43	20	117	61	2430	1670	39	13				
20	51	22	127	60	1550	927	---	---				
21	87	37	201	89	3090	6310	---	---				
22	145	60	191	83	3560	7590	---	---				
23	142	57	279	118	3200	5990	---	---				
24	87	33	668	321	2820	5580	---	---				
25	76	28	530	240	2620	4200	---	---				
26	62	26	510	223	1730	2090	---	---				
27	92	61	470	195	360	341	---	---				
28	82	51	564	225	44	34	218	100				
29	66	36	570	215	32	22	---	---				
30	49	24	458	161	578	375	---	---				
31	---	---	351	121	---	---	---	---				
TOTAL	---	2022	---	5310	---	37278						

BIG SANDY RIVER BASIN

03212703 ELKHORN CREEK TRIBUTARY AT WELCH, WV

LOCATION.--Lat 37°25'45", long 81°34'02", McDowell County, Hydrologic Unit 05070201, on left bank 0.1 mi (0.2 km) southeast of Stevens Clinic Hospital, and 0.2 mi (0.3 km) upstream from mouth and Elkhorn Creek.

DRAINAGE AREA.--0.63 mi² (1.63 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,360.00 ft (414.528 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 79 ft³/s (2.24 m³/s) July 6, gage height 2.84 ft (0.866 m), from rating curve extended above 58 ft³/s (1.64 m³/s); no flow many days during year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.06	.00	.02	.24	.14	.37	.80	2.5	.08	.02
2	.00	.00	.05	.00	.48	.22	.15	.31	1.5	.62	.09	.02
3	.00	.00	.04	.00	.21	.19	.15	.26	.89	.34	.07	.02
4	.00	.00	.04	.00	.06	.28	.12	.23	.83	.30	.06	.03
5	.00	.00	.04	.00	.01	.66	.46	.19	.85	.28	.05	.02
6	.00	.00	.03	.00	.01	.59	.35	.18	6.8	5.4	.08	.49
7	.00	.00	.03	.00	.00	.43	.28	.15	4.4	2.3	.26	.31
8	.00	.00	.02	.00	.02	.33	.24	.12	2.6	1.0	.39	.05
9	.00	.00	.03	.00	.02	.29	.27	.09	2.0	.60	.08	.03
10	.00	.00	.02	.00	.02	.24	.25	.08	1.7	.30	.04	.02
11	.00	.00	.02	.00	.09	.24	.34	.13	1.4	.20	.04	.01
12	.00	.00	.02	.00	.04	.24	.29	.11	1.0	.15	.66	.01
13	.00	.00	.01	.00	.03	.23	.29	.06	.89	.10	.11	.01
14	.00	.00	.01	.00	.03	.19	.27	.05	.75	5.5	.05	.01
15	.00	.00	.01	.00	.03	.18	.26	.06	.62	2.5	.04	.24
16	.00	.00	.01	.00	.03	.22	.24	.05	.56	1.5	.04	.22
17	.00	.01	.01	.00	.32	.19	.93	.04	.52	1.0	.04	.05
18	.00	.27	.00	.00	.32	.15	1.0	.05	.37	.80	.03	.03
19	.00	.06	.00	.00	.24	.14	.71	2.8	.32	.60	.03	.02
20	.00	.03	.00	.00	.60	.12	1.7	1.6	.28	.50	.03	.02
21	.00	.01	.00	.00	.35	.10	1.1	.66	.24	.40	.03	.02
22	.00	.00	.00	.00	.24	.09	.96	.43	.21	1.5	.03	.02
23	.00	.01	.00	.01	.32	.12	.96	.40	.17	1.0	.03	.01
24	.00	1.3	.00	.04	.26	.25	.87	.41	.15	.80	.03	.01
25	.41	.32	.00	.04	.21	.24	.76	.39	.15	.60	.02	.01
26	.11	.12	.00	.04	.18	.19	.66	.35	.26	.40	.02	.01
27	.03	.13	.00	.04	.15	.16	.60	1.3	.11	.30	.02	.00
28	.00	.16	.00	.03	.17	.13	.53	1.8	.08	.25	.02	.00
29	.00	.14	.00	.02	---	.12	.49	1.2	.07	.20	.02	.00
30	.00	.08	.00	.02	---	.12	.42	.90	4.1	.15	.01	.00
31	.00	---	.00	.01	---	.09	---	.80	---	.10	.02	---
TOTAL	.55	2.64	.45	.25	4.46	6.98	15.79	15.57	34.62	32.19	2.52	1.71
MEAN	.018	.088	.015	.008	.16	.23	.53	.50	1.15	1.04	.081	.057
MAX	.41	1.3	.06	.04	.60	.66	1.7	2.8	6.8	5.5	.66	.49
MIN	.00	.00	.00	.00	.00	.09	.12	.04	.07	.10	.01	.00
CFSM	.03	.13	.02	.01	.24	.35	.80	.76	1.74	1.58	.12	.09
IN.†	.03	.15	.03	.01	.25	.39	.89	.88	1.95	1.81	.14	.10
IN.‡	1.79	2.47	1.13	.57	2.88	2.31	3.98	4.97	7.05	4.79	2.58	3.43

WTR YR 1981 TOTAL 117.73 MEAN .32 MAX 6.8 MIN .00 CFSM .49 IN 6.63

† Runoff.

‡ Rainfall.

BIG SANDY RIVER BASIN

03212703 ELKHORN CREEK TRIBUTARY AT WELCH, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: October 1980 to September 1981 (discontinued).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,350 mg/L July 14; minimum daily mean detected, 0 mg/L several days during year.

SEDIMENT LOADS: Maximum daily, 312 tons (283 metric tons) June 6; minimum daily, 0 ton (0 metric ton) many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
NOV						
18...	1705	.16	--	6.4	6.0	--
DEC						
04...	0930	.06	311	6.6	.0	9.9
24...	0910	.29	365	7.3	5.0	10.9
JAN						
16...	1325	.20	506	7.6	5.5	14.8
24...	1700	.22	565	7.5	6.5	10.9
FEB						
6...	1455	.33	488	7.4	9.5	10.6
27...	1450	.60	512	7.5	13.5	--
MAR						
19...	1150	7.0	445	7.2	--	--
28...	1405	3.2	426	7.1	13.5	--
APR						
17...	1630	.50	639	7.4	15.0	--
MAY						
14...	1205	17	214	5.8	--	--
JUN						
05...	0920	.04	570	8.0	16.0	--
18...	1715	.04	610	8.1	18.0	--
JUL						
09...	1705	.33	550	7.9	17.0	--

03212703 ELKHORN CREEK TRIBUTARY AT WELCH, WV--Continued

SUSPENDED-SEDIMENT WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1		.00		.00	5	.00		.00	5	.00	3	.00
2		.00		.00	5	.00		.00	179	.31	1	.00
3		.00		.00	3	.00		.00	15	.00	0	.00
4		.00		.00	1	.00		.00	11	.00	106	.12
5		.00		.00	2	.00		.00		.00	61	.11
6		.00		.00	1	.00		.00		.00	3	.00
7		.00		.00	3	.00		.00		.00	2	.00
8		.00		.00	3	.00		.00		.00	1	.00
9		.00		.00	115	.00		.00		.00	1	.00
10		.00		.00	12	.00		.00		.00	0	.00
11		.00		.00	4	.00		.00		.00	1	.00
12		.00		.00	3	.00		.00		.00	3	.00
13		.00		.00	2	.00		.00		.00	6	.00
14		.00		.00	1	.00		.00		.00	5	.00
15		.00		.00	1	.00	50	.00		.00	4	.00
16		.00		.00	1	.00	21	.00		.00	9	.00
17		.00		.00	1	.00		.00	39	.04	5	.00
18		.00	294	.31		.00		.00	13	.01	6	.00
19		.00	5	.00		.00		.00	10	.00	0	.00
20		.00	3	.00		.00		.00	22	.04	1	.00
21		.00	1	.00		.00		.00	8	.00	1	.00
22		.00		.00		.00		.00	5	.00	1	.00
23		.00		.00		.00		.00	14	.01	55	.04
24		.00	273	1.5		.00		.00	7	.00	91	.07
25	185	.39	30	.03		.00	13	.00	7	.00	4	.00
26	24	.00	8	.00		.00		.00	5	.00	14	.00
27		.00	7	.00		.00		.00	8	.00	13	.00
28		.00	19	.00		.00		.00	7	.00	4	.00
29		.00	13	.00		.00		.00	---	---	5	.00
30		.00	5	.00		.00		.00	---	---	7	.00
31		.00	---	---		.00		.00	---	---	7	.00
TOTAL	---	0.39	---	1.84	---	0.00	---	0.00	---	0.41	---	0.34
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	5	.00	16	.02	93	.29	158	.35	7	.00	17	.00
2	3	.00	12	.01	205	1.2	10	.02	19	.00	10	.00
3	2	.00	14	.00	18	.04	11	.01	6	.00	20	.00
4	3	.00	10	.00	61	.17	10	.00	7	.00	16	.00
5	124	.19	3	.00	47	.12	10	.00	6	.00	11	.00
6	9	.00	0	.00	3990	312	2420	144	169	.04	1260	6.2
7	10	.00	0	.00	41	.65	21	.13	179	.31	69	.09
8	10	.00	2	.00	15	.11	13	.04	136	.24	25	.00
9	8	.00	1	.00	12	.06	9	.01	7	.00	13	.00
10	49	.04	1	.00	37	.17	13	.01	4	.00	17	.00
11	5	.00	4	.00	12	.05	5	.00	3	.00	9	.00
12	5	.00	11	.00	10	.03	7	.00	231	1.0	4	.00
13	4	.00	9	.00	8	.02	5	.00	8	.00	7	.00
14	1	.00	19	.00	8	.02	5350	249	4	.00	7	.00
15	1	.00	57	.01	9	.02	120	.81	5	.00	246	.24
16	2	.00	4	.00	24	.04	63	.26	19	.00	32	.02
17	79	.35	5	.00	14	.02	12	.03	5	.00	23	.00
18	13	.04	4	.00	6	.00	5	.01	4	.00	14	.00
19	5	.00	410	3.7	10	.00	5	.00	3	.00	8	.00
20	153	1.0	30	.18	9	.00	17	.02	3	.00	4	.00
21	17	.05	5	.00	13	.00	26	.03	2	.00	4	.00
22	13	.03	5	.00	10	.00	78	.32	1	.00	7	.00
23	10	.03	5	.00	3	.00	6	.02	2	.00	6	.00
24	7	.02	3	.00	25	.00	4	.00	5	.00	3	.00
25	4	.00	9	.00	100	.07	4	.00	2	.00	4	.00
26	4	.00	12	.01	49	.03	3	.00	0	.00	4	.00
27	6	.00	629	2.9	31	.00	2	.00	1	.00		.00
28	18	.03	177	.98	33	.00	2	.00	4	.00		.00
29	19	.03	20	.06	27	.00	2	.00	7	.00		.00
30	12	.01	14	.03	3120	191	3	.00	6	.00		.00
31	---	---	12	.03	---	---	2	.00	6	.00	---	---
TOTAL	---	1.82	---	7.93	---	506.11	---	395.07	---	1.59	---	6.55
TOTAL LOAD FOR YEAR:		922.05		TONS.								

BIG SANDY RIVER BASIN

419

03212985 DRY FORK AT AVONDALE, WV

LOCATION.--Lat 37°25'32", long 81°47'22", McDowell County, Hydrologic Unit 05070201, at bridge on State Highway 80/2, 100 ft (30 m) downstream from Mile Branch, 3.2 mi (5.1 km) upstream from Iaeger, and at mile 3.5 (5.6 km).

DRAINAGE AREA.--225 mi² (583 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to June 1981 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 993.98 ft (302.965 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft³/s (309 m³/s) Jan. 21, 1979, gage height, 9.07 ft (2.765 m), from rating curve extended above 3,400 ft³/s (96 m³/s); minimum, 14 ft³/s (0.40 m³/s) Oct. 23, 24, 1978, gage height, 1.93 ft (0.588 m).

EXTREMES FOR CURRENT PERIOD.--Water year 1979: Maximum discharge, 10,900 ft³/s (309 m³/s) Jan. 21, gage height, 9.07 ft (2.765 m), from rating curve extended above 3,400 ft³/s (96 m³/s); minimum, 14 ft³/s (0.40 m³/s) Oct. 23, 24, gage height, 1.93 ft (0.588 m).

Water year 1980: Maximum discharge, 4,640 ft³/s (131 m³/s) Apr. 30, gage height, 6.73 ft (2.051 m), from rating curve extended above 3,400 ft³/s (96 m³/s); minimum, 34 ft³/s (0.963 m³/s) Sept. 29, gage height, 2.12 ft (0.646 m).

October to June 1981: Maximum discharge during period, 5,020 ft³/s (142 m³/s) June 7, gage height, 6.92 ft (2.109 m), from rating curve extended above 3,400 ft³/s (96 m³/s); minimum daily, 25 ft³/s (0.71 m³/s) Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	23	51	345	360	976	335	330	143	330	170	56
2	---	24	39	1330	308	896	355	292	135	300	132	58
3	---	23	38	776	288	712	1300	276	358	270	113	55
4	---	23	146	445	276	561	1710	749	872	320	102	52
5	---	20	158	355	236	1100	1390	1450	455	420	93	61
6	---	20	115	316	204	888	976	1000	288	250	89	149
7	---	20	80	863	236	673	688	680	224	106	79	100
8	---	27	137	1510	208	547	533	491	182	82	73	73
9	---	24	955	800	191	435	498	390	170	72	70	64
10	---	17	547	512	158	440	533	335	164	110	69	73
11	---	21	244	380	158	425	484	288	188	150	72	51
12	---	21	161	308	155	420	385	677	188	125	115	42
13	---	21	120	280	158	400	420	460	146	125	104	49
14	---	19	95	276	152	385	435	440	125	113	79	48
15	---	27	77	256	279	340	450	395	111	127	72	47
16	---	41	70	244	1390	300	410	335	102	149	77	45
17	---	42	67	236	920	272	355	280	372	130	65	41
18	---	35	61	212	617	260	308	244	390	111	62	37
19	19	27	61	191	470	240	284	212	548	102	70	35
20	18	24	67	954	375	216	264	194	736	104	70	34
21	17	20	346	6810	450	204	248	176	425	146	69	70
22	16	19	375	2740	880	185	224	173	1610	130	61	160
23	15	26	224	1170	832	212	208	167	3320	113	91	400
24	14	26	179	960	1440	1420	197	188	2770	113	61	160
25	16	23	308	920	2480	1410	185	228	1900	104	69	72
26	20	23	312	712	2180	864	191	224	928	120	108	64
27	20	27	232	575	1280	624	464	224	638	375	93	56
28	18	32	170	624	896	491	561	188	385	312	77	61
29	17	46	111	568	---	415	440	173	370	240	69	62
30	19	61	125	470	---	370	380	152	355	185	61	53
31	18	---	188	425	---	335	---	143	---	143	56	---
TOTAL	---	802	5859	26563	17577	17016	15211	11554	18598	5477	2591	2328
MEAN	---	26.7	189	857	628	549	507	373	620	177	83.6	77.6
MAX	---	61	955	6810	2480	1420	1710	1450	3320	420	170	400
MIN	---	17	38	191	152	185	185	143	102	72	56	34
CFSM	---	.12	.64	3.81	2.79	2.44	2.25	1.66	2.76	.79	.37	.35
IN.	---	.13	.97	4.39	2.91	2.81	2.51	1.91	3.07	.91	.43	.38

BIG SANDY RIVER BASIN

03212985 DRY FORK AT AVONDALE, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	48	191	197	232	240	496	1610	173	53	68	61
2	56	264	170	176	204	236	451	903	158	53	54	56
3	82	435	132	164	200	232	424	665	146	54	54	53
4	72	232	125	164	194	240	678	531	137	51	54	53
5	70	158	122	164	191	325	692	440	132	66	60	54
6	65	127	122	152	197	784	561	404	121	64	70	56
7	56	115	122	149	182	617	473	346	116	51	80	56
8	52	104	113	370	164	533	409	310	111	46	86	54
9	49	100	95	355	164	455	462	276	106	177	75	49
10	170	212	91	304	164	415	440	252	97	424	74	88
11	236	410	88	280	152	420	384	248	97	573	68	75
12	152	455	89	308	164	380	350	229	99	203	77	54
13	197	410	117	308	149	385	346	221	94	573	72	45
14	316	300	137	365	164	430	399	240	92	346	61	45
15	185	228	135	445	232	400	549	207	88	190	59	48
16	135	188	130	425	603	385	496	190	86	137	56	45
17	111	161	125	385	784	445	424	177	84	124	57	53
18	93	135	111	1020	526	840	399	244	81	90	111	61
19	80	115	113	1520	430	904	350	248	75	86	264	59
20	70	102	117	792	385	680	336	280	74	79	135	53
21	62	100	111	554	380	1150	310	592	68	75	101	46
22	55	89	108	576	390	1200	284	462	70	72	332	62
23	55	88	106	1730	370	809	272	364	66	225	180	84
24	61	93	113	944	350	692	268	327	66	161	113	61
25	56	130	232	659	316	757	256	440	70	94	97	49
26	53	659	425	477	308	706	272	364	81	84	84	45
27	49	631	415	385	276	605	771	305	77	88	66	39
28	49	415	340	325	284	573	1090	252	70	135	57	37
29	53	308	284	296	268	592	771	214	62	101	53	34
30	52	244	252	260	---	567	2910	197	59	86	53	35
31	51	---	224	256	---	567	---	183	---	74	53	---
TOTAL	2888	7056	5055	14505	8423	17564	16323	11721	2856	4635	2824	1610
MEAN	93.2	235	163	468	290	567	544	378	95.2	150	91.1	53.7
MAX	316	659	425	1730	784	1200	2910	1610	173	573	332	88
MIN	45	48	88	149	149	232	256	177	59	46	53	34
CFSM	.41	1.04	.72	2.08	1.29	2.52	2.42	1.68	.42	.67	.41	.24
IN.	.48	1.17	.84	2.40	1.39	2.90	2.70	1.94	.47	.77	.47	.27
CAL YR 1979	TOTAL	131914	MEAN 361	MAX 6810	MIN 34	CFSM 1.60	IN 21.81					
WTR YR 1980	TOTAL	95460	MEAN 261	MAX 2910	MIN 34	CFSM 1.16	IN 15.78					

BIG SANDY RIVER BASIN

03212985 DRY FORK AT AVONDALE, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	32	53	42	48	158	180	236	490			
2	32	30	46	37	263	149	173	229	1580			
3	32	32	44	34	314	132	167	221	903			
4	41	32	45	35	173	135	155	203	685			
5	37	32	45	34	111	350	203	186	1480			
6	33	32	45	33	132	580	293	170	1440			
7	30	30	44	45	90	457	284	149	3120			
8	30	29	42	43	92	310	264	149	1610			
9	32	29	42	40	72	236	256	146	985			
10	32	32	46	39	74	203	364	137	706			
11	32	34	48	37	167	170	561	149	543			
12	33	33	41	35	244	155	672	143	430			
13	32	32	37	34	180	140	618	137	446			
14	30	32	38	37	149	132	479	140	384			
15	29	32	35	41	113	113	314	167	310			
16	29	32	34	34	99	137	260	155	272			
17	29	37	33	32	158	233	323	140	284			
18	27	70	32	30	360	240	561	113	233			
19	27	66	29	28	327	211	721	240	200			
20	27	53	27	30	350	197	1630	2050	190			
21	29	41	26	46	389	173	1040	863	180			
22	29	37	25	56	310	164	919	531	173			
23	30	37	27	59	293	177	531	394	161			
24	29	163	35	61	350	207	435	310	143			
25	45	155	35	54	305	310	404	264	146			
26	81	99	32	53	233	336	394	221	211			
27	49	79	30	56	183	310	323	288	183			
28	37	70	28	66	158	264	301	1220	158			
29	34	68	32	62	---	221	288	1360	135			
30	33	62	35	59	---	207	252	832	129			
31	30	---	39	48	---	197	---	592	---			
TOTAL	1052	1542	1150	1340	5737	7004	13365	12135	17910			
MEAN	33.9	51.4	37.1	43.2	205	226	446	391	597			
MAX	81	163	53	66	389	580	1630	2050	3120			
MIN	27	29	25	28	48	113	155	113	129			
CFSM	.15	.23	.17	.19	.91	1.00	1.98	1.74	2.65			
IN.	.17	.25	.19	.22	.95	1.16	2.21	2.01	2.96			
CAL YR 1980	TOTAL	84205	MEAN	230	MAX	2910	MIN	25	CFSM	1.02	IN	13.92

BIG SANDY RIVER BASIN

03212985 DRY FORK AT AVONDALE, WV.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1978 to June 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: November 1978 to June 1981 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,640 mg/L Apr. 20, 1981; minimum daily mean, 0 mg/L Jan. 4, 1981.

SEDIMENT LOADS: Maximum daily, 32,200 tons (29,200 metric tons) Jan. 21, 1979; minimum daily, 0 ton (0 metric ton) Jan. 4, 1981.

EXTREMES FOR PERIOD NOVEMBER 1978 TO SEPTEMBER 1979.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,630 mg/L Jan. 21; minimum daily mean, 2 mg/L Apr. 2, Sept. 20.

SEDIMENT LOADS: Maximum daily, 32,200 tons (29,200 metric tons) Jan. 21; minimum daily, 0.18 ton (0.16 metric ton) Sept. 20.

EXTREMES FOR 1980 WATER YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 830 mg/L May 20; minimum daily mean, 1 mg/L Feb. 26, 27.

SEDIMENT LOADS: Maximum daily, 3,160 tons (2,870 metric tons) Jan. 18; minimum daily, 0.26 ton (0.24 metric ton) Oct. 27.

EXTREMES FOR PERIOD OCTOBER 1980 TO JUNE 1981.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,640 mg/L Apr. 20; minimum daily mean, 0 mg/L Jan. 4.

SEDIMENT LOADS: Maximum daily, 9,350 tons (8,480 metric tons) June 7; minimum daily, 0 ton (0 metric ton) Jan. 4.

WATER QUALITY DATA

DATE	TIME	ST-TEAM- FLOW- INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN- DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM- FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
OCT , 1979												
31...	1500	51	--	--	15.0	--	--	--	--	--	--	--
DEC												
12...	1405	92	--	--	7.0	--	--	--	--	--	--	--
13...	1300	120	550	7.4	9.5	--	--	--	--	--	--	--
JAN , 1980												
26...	1025	470	355	--	7.0	--	--	--	--	--	--	--
31...	1355	260	430	8.0	1.5	--	--	--	--	--	--	--
FEB												
25...	1415	300	318	7.1	8.0	--	12.2	.30	920	250	88	0
29...	1330	220	340	8.6	4.5	--	--	--	--	--	--	--
MAR												
19...	1715	922	300	8.0	9.5	--	--	--	--	--	--	--
25...	1150	798	260	7.9	9.5	--	--	--	--	--	88	21
25...	1300	799	--	--	--	--	--	--	--	--	--	--
28...	1700	592	315	7.1	10.0	--	--	--	--	--	--	--
APR												
22...	1405	283	440	8.4	18.0	--	--	--	--	--	--	--
22...	1615	276	445	9.2	14.0	--	7.0	.62	K89	160	100	0
29...	1400	840	250	--	18.5	--	--	--	--	--	--	--
MAY												
01...	0900	2160	--	--	10.8	--	--	--	--	--	--	--
19...	1430	240	500	8.3	21.0	--	--	.36	K1500	230	130	0
28...	1640	230	525	8.8	22.0	--	--	--	--	--	--	--
JUN												
02...	1810	157	625	8.9	25.0	--	--	--	--	--	--	--
17...	1340	82	770	8.5	22.5	--	--	.28	750	K4400	140	0
26...	1110	90	800	8.6	21.0	--	--	--	--	--	--	--
JUL												
15...	1600	167	378	8.2	27.0	--	--	.68	2200	560	110	0
16...	1310	136	475	8.2	28.0	--	--	--	--	--	--	--
30...	1305	84	640	8.6	25.5	--	--	--	--	--	--	--
AUG												
07...	1800	79	578	8.5	27.0	--	7.4	.16	2400	1700	130	0
19...	1230	301	650	8.3	23.5	100	--	--	--	--	130	0
SEP												
04...	1540	46	730	8.3	24.5	--	--	--	--	--	--	--
08...	1545	54	825	8.1	26.5	--	--	--	--	--	--	--
22...	1615	42	840	8.6	24.0	--	8.6	.13	--	--	120	0
OCT												
02...	1600	38	750	8.7	19.0	--	--	--	--	--	--	--
07...	1125	30	810	--	12.5	--	--	--	--	--	--	--
20...	1615	27	1040	8.6	16.0	--	10.1	.26	150	270	120	0
30...	1845	39	770	8.3	10.0	--	--	--	--	--	--	--
NOV												
13...	1615	33	950	8.3	9.0	--	--	--	--	--	--	--
DEC												
02...	1115	48	550	8.1	7.5	--	--	--	--	--	--	--
31...	1445	46	625	8.4	5.5	--	--	--	--	--	--	--
JAN , 1981												
05...	1530	34	646	8.4	.0	--	14.9	.20	240	K90	130	0
20...	1055	32	680	8.6	.0	--	--	--	--	--	--	--
28...	1740	64	445	8.5	5.0	--	--	--	--	--	--	--
FEB												
14...	1420	374	260	8.0	11.0	--	10.4	.89	K3000	740	83	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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03212985 DRY FORK AT AVONDALE, WV--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
FEB , 1981												
23...	1540	292	360	7.4	10.0	--	--	--	--	--	--	--
27...	1720	186	550	8.1	10.0	--	--	--	--	--	--	--
APR												
01...	1520	186	460	8.3	15.5	--	--	--	--	--	--	--
09...	1250	244	350	7.6	13.5	--	--	--	--	--	--	--
15...	1425	292	360	8.8	15.5	--	9.6	.79	220	K64	88	0
30...	1425	240	440	8.3	17.0	--	--	--	--	--	--	--
JUN												
03...	1435	832	240	7.6	19.0	--	--	--	--	--	--	--
08...	1640	1460	260	7.8	18.5	--	9.4	.77	3100	1000	100	37
JUL												
21...	1320	E90	660	8.4	26.0	--	--	--	--	--	150	--

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB , 1980											
25...	--	22	8.1	35	46	1.6	37	1.7	93	59	6.3
MAR											
25...	.1	22	8.1	22	--	1.0	--	--	72	49	4.0
APR											
22...	--	25	10	52	52	2.2	--	2.1	130	74	6.3
MAY											
19...	--	33	12	61	50	2.3	--	2.0	170	83	7.0
JUN											
17...	--	33	15	120	64	4.4	--	3.1	270	120	11
JUL											
15...	--	29	8.7	36	41	1.5	--	2.6	120	57	6.6
AUG											
07...	--	33	12	79	56	3.0	--	3.1	220	75	13
19...	.0	31	12	92	--	3.9	--	--	217	93	9.9
SEP											
22...	--	25	13	130	70	5.3	--	3.3	300	95	21
OCT											
20...	--	26	13	190	77	7.6	--	3.5	370	130	28
JAN , 1981											
05...	--	31	12	87	59	3.4	--	2.6	210	93	18
FEB											
18...	--	23	6.3	20	--	1.0	--	--	70	41	8.7
APR											
15...	--	23	7.4	41	50	1.9	--	1.2	110	53	7.3
JUN											
08...	--	25	9.8	19	28	.8	--	2.3	66	49	3.9
JUL											
21...	--	36	14	84	--	3.0	--	--	218	94	9.5

K Results based on colony count outside the acceptable range (non-ideal colony count).

03212985 DRY FORK AT AVONDALE, WV--Continued

WATER-QUALITY DATA

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 140 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
FER . 1980											
25...	.1	5.7	184	195	141	.17	.030	.10	.13	.010	70
MAR 25...	--	--	158	--	340	--	--	--	--	--	--
APR 22...	.1	3.6	256	252	191	.03	.050	.54	.59	.010	--
MAY 19...	.2	5.4	307	309	199	.67	.010	.18	.19	.010	--
JUN 17...	.3	2.4	464	462	103	.09	.040	.15	.19	.020	60
JUL 15...	.1	7.5	228	222	103	.42	.000	.26	.26	.030	--
AUG 07...	.3	1.8	352	350	101	.04	.020	.10	.12	.010	--
19...	--	3.6	397	--	323	--	--	--	--	--	--
SEP 22...	.3	.4	484	469	54.9	.05	.000	.08	.08	.020	--
OCT 20...	.4	.3	594	602	43.3	.01	.020	.23	.25	.020	110
JAN . 1981											
05...	.2	.9	393	371	36.1	.06	.000	.14	.14	.010	--
FER . 1981											
18...	<.1	6.3	148	--	149	.54	.050	.30	.35	.050	650
APR 15...	.1	5.2	205	204	162	.18	<.010	.60	.61	.030	--
JUN 08...	<.1	9.1	143	158	564	.44	.030	.30	.33	.020	380
JUL 21...	--	--	391	--	95.0	--	--	--	--	--	--

[illegible]

BIG SANDY RIVER BASIN

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03212985 DRY FORK AT AVONDALE, WV--Continued

WATER-QUALITY DATA

	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	
FEB . 1980												
25...	560	530	30	3	3	0	--	50	20	30	<.1	
MAR												
25...	860	840	20	--	--	--	--	30	10	20	--	
APR												
22...	--	--	50	--	--	--	--	--	--	20	--	
MAY												
19...	--	--	20	--	--	--	--	--	--	20	--	
JUN												
17...	150	110	40	2	2	0	--	20	0	20	<.1	
JUL												
15...	--	--	20	--	--	--	--	--	--	10	--	
AUG												
07...	--	--	20	--	--	--	--	--	--	10	--	
19...	5000	5000	29	--	--	17	67	160	160	2	--	
SEP												
22...	--	--	30	--	--	--	--	--	--	10	--	
OCT												
20...	330	290	40	3	3	0	--	20	10	10	<.1	
JAN . 1981												
05...	--	--	30	--	--	--	--	--	--	50	--	
FEB												
18...	1200	1200	30	8	5	3	--	90	60	30	<.1	
APR												
15...	--	--	30	--	--	--	--	--	--	20	--	
JUN												
08...	880	860	20	4	4	0	--	50	30	20	<.1	
JUL												
21...	690	680	10	--	--	--	--	40	30	8	--	
DATE	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
JAN . 1980												
31...	--	--	--	--	--	--	--	--	--	--	6	4.2
FEB												
25...	0	<.1	--	--	--	20	10	10	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	3	1.8
MAR												
19...	--	--	--	--	--	--	--	--	--	--	53	132
25...	--	--	--	--	--	--	--	--	--	6.00	--	--
28...	--	--	--	--	--	--	--	--	--	--	36	58
JUN												
17...	--	<.1	--	--	--	70	70	0	--	--	--	--
AUG												
19...	--	--	<10	790	<6.0	--	--	7	6.5	--	507	412
OCT												
20...	--	<.1	--	--	--	30	30	0	--	--	--	--
FEB . 1981												
18...	--	<.1	--	--	--	30	--	<4	--	--	--	--
JUN												
08...	--	<.1	--	--	--	20	0	30	--	--	--	--

BIG SANDY RIVER BASIN

03212985 DRY FORK AT AVONDALE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			---	---	55	7.6	156	145	12	12	71	187
2			---	---	40	4.2	746	2690	16	13	52	126
3			---	---	67	6.9	123	258	17	13	43	83
4			---	---	235	93	64	77	15	11	65	98
5			---	---	187	80	50	48	16	10	282	844
6			---	---	63	20	36	31	20	11	78	187
7			---	---	62	13	585	2170	253	157	28	51
8			17	1.2	285	118	398	1620	37	21	30	44
9			16	1.0	913	2280	114	246	22	11	18	21
10			20	.92	176	260	72	100	15	6.4	17	20
11			17	.96	87	57	75	77	13	5.5	19	22
12			13	.74	74	32	83	69	12	5.0	17	19
13			11	.62	65	21	40	30	11	4.7	16	17
14			12	.62	58	15	48	36	11	4.5	15	16
15			38	2.8	43	8.9	16	11	274	294	14	13
16			63	7.0	36	6.8	80	53	440	1650	8	6.5
17			69	7.8	33	6.0	67	43	88	219	5	3.7
18			65	6.1	13	2.1	46	26	27	45	6	4.2
19			42	3.1	7	1.2	70	36	17	22	6	3.9
20			13	.84	9	1.6	783	3630	15	15	7	4.1
21			12	.65	399	425	1630	32200	60	73	7	3.9
22			54	2.8	150	152	770	5700	139	330	8	4.0
23			16	1.1	87	53	202	638	67	151	23	21
24			28	2.0	88	43	107	277	403	2300	657	2860
25			15	.93	217	180	57	142	600	4020	240	914
26			12	.75	107	90	32	62	451	2650	120	280
27			15	1.1	60	38	36	56	171	591	47	79
28			47	4.1	13	6.0	55	93	68	165	17	23
29			74	9.2	17	5.1	32	49	---	---	12	13
30			137	23	12	4.1	14	18	---	---	11	11
31			---	---	103	52	13	15	---	---	10	9.0
TOTAL					---	4082.5	---	50646	---	12810.1	---	5988.3
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	21	19	4	3.6	25	9.7	29	26	77	35	50	7.6
2	21	20	3	2.4	28	10	27	22	28	10	45	7.0
3	465	1930	3	2.2	248	561	22	16	20	6.1	14	2.1
4	292	1350	372	994	204	562	22	19	12	3.3	13	1.8
5	102	383	257	1010	44	54	21	24	9	2.3	64	14
6	42	111	88	238	23	18	22	15	7	1.7	61	25
7	23	43	33	61	13	7.9	14	4.0	4	.85	21	5.7
8	11	16	19	25	9	4.4	12	2.7	15	3.0	17	3.4
9	8	11	12	13	9	4.1	26	5.1	6	1.1	7	1.2
10	13	19	7	6.3	10	4.4	18	5.3	5	1.2	6	1.2
11	12	16	7	5.4	35	20	52	21	4	.78	10	1.4
12	7	7.3	1090	2430	21	11	23	7.8	55	17	8	.91
13	9	10	49	61	10	3.9	25	8.4	23	6.5	8	1.1
14	27	32	27	32	4	1.4	26	7.9	23	4.9	7	.91
15	12	15	24	26	3	.90	45	15	37	7.2	11	1.4
16	5	5.5	16	14	13	3.6	50	20	35	7.3	7	.85
17	4	3.8	21	16	203	241	43	15	12	2.1	5	.55
18	17	14	21	14	106	112	34	10	7	1.2	17	1.7
19	7	5.4	17	9.7	211	455	27	7.4	13	2.5	7	.66
20	4	2.9	21	11	249	523	23	6.5	18	3.4	2	.18
21	2	1.3	24	11	147	169	59	23	17	3.9	3	.57
22	3	1.8	22	10	472	2050	42	15	15	2.5	160	69
23	4	2.2	27	12	1110	9950	45	14	67	18	325	351
24	4	2.1	34	17	869	6500	43	13	41	6.8	85	37
25	4	2.0	34	21	585	3000	42	12	17	4.0	16	3.1
26	11	5.7	23	14	152	381	67	22	66	20	10	1.7
27	240	264	17	10	83	143	249	252	19	4.8	8	1.2
28	56	85	11	5.6	40	42	67	56	26	5.4	6	.99
29	17	20	8	3.7	36	36	32	21	38	7.1	5	.84
30	7	7.2	12	4.9	33	32	24	12	47	7.7	5	.72
31	---	---	19	7.3	---	---	16	6.2	53	8.0	---	---
TOTAL	---	4405.2	---	5091.1	---	24910.30	---	704.3	---	205.63	---	544.78

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	12	1.5	4	.52	10	5.2	5	2.7	5	3.1	7	4.5				
2	101	20	483	475	11	5.0	3	1.4	4	2.2	10	6.4				
3	110	24	290	341	12	4.3	4	1.8	4	2.2	8	5.0				
4	38	7.4	62	39	11	3.7	5	2.2	6	3.1	3	1.9				
5	7	1.3	31	13	30	9.9	4	1.8	6	3.1	27	101				
6	7	1.2	28	9.6	68	22	3	1.2	7	3.7	139	300				
7	12	1.8	7	2.2	40	13	57	21	4	2.0	45	75				
8	10	1.4	5	1.4	13	4.0	181	169	4	1.8	18	26				
9	8	1.1	5	1.4	7	1.8	27	26	2	.89	12	15				
10	100	64	80	67	18	4.4	14	11	3	1.3	8	9.0				
11	107	68	63	70	20	4.8	7	5.3	10	4.1	29	33				
12	58	24	57	70	14	3.4	17	14	10	4.4	7	7.2				
13	101	54	41	45	94	30	66	55	3	1.2	7	7.3				
14	164	140	31	25	59	22	103	102	2	.89	27	31				
15	59	29	25	15	17	6.2	43	52	20	13	7	7.6				
16	25	9.1	16	8.1	8	2.8	2	2.3	239	458	7	7.3				
17	17	5.1	11	4.8	6	2.0	2	2.1	130	275	110	155				
18	10	2.5	32	12	25	7.5	724	3160	43	61	239	520				
19	8	1.7	22	6.8	12	3.7	690	2830	24	28	62	151				
20	7	1.3	14	3.9	3	.95	115	246	7	7.3	30	55				
21	7	1.2	8	2.2	3	.90	57	85	3	3.1	373	1440				
22	6	.89	5	1.2	4	1.2	33	72	3	3.2	211	684				
23	5	.74	7	1.7	6	1.7	156	759	5	5.0	63	138				
24	4	.66	11	2.8	10	3.1	18	46	5	4.7	38	71				
25	4	.60	29	10	124	101	6	11	3	2.6	13	27				
26	3	.43	204	343	107	123	16	21	1	.83	13	25				
27	2	.26	70	119	15	17	12	12	1	.75	22	36				
28	3	.40	77	86	2	1.8	5	4.4	3	2.3	27	42				
29	2	.29	63	52	2	1.5	23	18	5	3.6	25	40				
30	2	.28	23	15	3	2.0	15	11	---	---	17	26				
31	3	.41	---	---	4	2.4	7	4.8	---	---	17	26				
TOTAL	---	464.56	---	1843.62	---	412.25	---	7751.0	---	902.36	---	4073.2				
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER						
1	11	15	282	1230	5	2.3	15	2.1	23	4.2	33	5.4				
2	14	17	87	212	7	3.0	12	1.7	21	3.1	15	2.3				
3	23	26	36	65	7	2.8	18	2.6	20	2.9	12	1.7				
4	260	467	19	27	15	5.5	43	5.9	17	2.5	13	1.9				
5	60	112	28	33	12	4.3	97	17	54	8.7	12	1.7				
6	13	20	19	21	9	2.9	13	2.2	76	14	13	2.0				
7	10	13	12	11	4	1.3	7	.96	39	8.4	17	2.6				
8	10	11	12	10	8	2.4	7	.87	8	1.9	16	2.3				
9	22	27	10	7.5	11	3.1	320	427	9	1.8	7	.93				
10	10	12	7	4.8	9	2.4	568	960	15	3.0	90	21				
11	12	12	5	3.3	12	3.1	199	515	12	2.2	37	7.5				
12	13	12	6	3.7	9	2.4	9	4.9	30	6.2	14	2.0				
13	12	11	7	4.2	9	2.3	278	525	16	3.1	8	.97				
14	77	89	10	6.5	7	1.7	187	175	18	3.0	10	1.2				
15	115	170	7	3.9	4	.95	83	43	7	1.1	12	1.6				
16	29	39	7	3.6	4	.93	58	21	13	2.0	11	1.3				
17	13	15	7	3.3	10	2.3	27	9.0	21	3.2	17	2.4				
18	10	11	52	34	10	2.2	25	6.1	291	93	16	2.6				
19	8	7.6	27	18	6	1.2	17	3.9	321	239	11	1.8				
20	9	8.2	830	695	5	1.0	8	1.7	164	60	5	.72				
21	8	6.7	192	306	5	.92	3	.61	84	23	4	.50				
22	8	6.1	38	47	5	.95	8	1.6	640	561	38	13				
23	9	6.6	16	16	13	2.3	145	426	202	98	103	23				
24	22	16	20	18	6	1.1	50	22	91	28	58	9.6				
25	21	15	89	110	4	.76	10	2.5	67	18	65	8.6				
26	27	20	28	28	12	2.6	7	1.6	43	9.8	41	5.0				
27	279	635	13	11	16	3.3	37	8.8	27	4.8	15	1.6				
28	139	409	8	5.4	9	1.7	211	81	16	2.5	3	.30				
29	27	56	6	3.5	12	2.0	47	13	17	2.4	3	.28				
30	436	4070	3	1.6	14	2.2	17	3.9	13	1.9	4	.38				
31	---	---	3	1.5	---	---	25	5.0	36	6.3	---	---				
TOTAL	---	6335.2	---	2944.8	---	65.91	---	3290.94	---	1219.0	---	126.18				
TOTAL LOAD FOR YEAR:		29429.02		TONS.												

BIG SANDY RIVER BASIN

03212985 DRY FORK AT AVONDALE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5	.43	5	.43	4	.57	2	.23	7	.91	7	3.0
2	21	1.8	5	.41	3	.37	1	.10	108	109	6	2.4
3	15	1.3	5	.43	2	.24	1	.09	92	92	4	1.4
4	26	2.9	7	.60	3	.36	0	.00	46	21	18	6.6
5	10	1.0	8	.69	5	.61	1	.09	23	6.9	166	189
6	7	.62	6	.52	4	.49	3	.27	10	3.6	207	324
7	13	1.1	5	.41	5	.59	2	.24	10	2.4	103	127
8	10	.81	6	.47	5	.57	1	.12	7	1.7	53	44
9	9	.78	6	.47	8	.91	2	.22	6	1.2	19	12
10	7	.60	7	.60	7	.87	4	.42	7	1.4	6	3.3
11	23	2.0	13	1.2	5	.65	3	.30	131	76	6	2.8
12	8	.71	12	1.1	4	.44	1	.09	42	28	5	2.1
13	5	.43	9	.78	5	.50	2	.18	14	6.8	3	1.1
14	6	.49	6	.52	6	.62	5	.50	12	4.8	2	.71
15	7	.55	5	.43	6	.57	5	.55	7	2.1	10	3.1
16	6	.47	6	.52	5	.46	4	.37	4	1.1	67	25
17	13	1.0	13	1.3	4	.36	2	.17	95	57	27	17
18	12	.87	74	14	8	.69	4	.32	166	154	7	4.5
19	8	.58	19	3.4	6	.47	5	.38	49	43	6	3.4
20	9	.66	13	1.9	4	.29	28	2.3	101	95	5	2.7
21	8	.63	17	1.9	4	.28	72	8.9	167	175	5	2.3
22	8	.63	12	1.2	3	.20	17	2.6	58	49	6	2.7
23	6	.49	9	.90	5	.36	12	1.9	67	53	9	4.3
24	3	.23	240	100	7	.66	7	1.2	103	97	17	9.5
25	53	8.2	62	26	8	.76	5	.73	23	19	89	74
26	74	17	14	3.7	9	.78	4	.57	13	8.2	20	18
27	7	.93	5	1.1	9	.73	10	1.5	10	4.9	15	13
28	7	.70	2	.38	12	.91	9	1.6	9	3.8	10	7.1
29	9	.83	3	.55	18	1.6	4	.67	---	---	10	6.0
30	3	.27	5	.84	23	2.2	3	.48	---	---	7	3.9
31	4	.32	---	---	9	.95	3	.39	---	---	12	6.4
TOTAL	---	49.33	---	166.75	---	20.06	---	27.48	---	1117.81	---	922.31
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15	7.3	8	5.1	332	439						
2	7	3.3	4	2.5	399	1810						
3	5	2.3	4	2.4	113	276						
4	5	2.1	4	2.2	121	285						
5	103	64	7	3.5	97	388						
6	40	32	6	2.8	424	3390						
7	73	56	5	2.0	1110	9350						
8	27	19	6	2.4	255	1110						
9	16	11	7	2.8	43	114						
10	73	72	9	3.3	56	107						
11	107	162	8	3.2	21	31						
12	48	87	6	2.3	11	13						
13	27	45	6	2.2	27	33						
14	27	35	14	5.3	20	21						
15	25	21	54	24	15	13						
16	16	11	16	6.7	21	15						
17	56	49	8	3.0	52	40						
18	157	238	8	2.4	20	13						
19	75	146	168	167	49	26						
20	1640	7220	618	3840	8	4.1						
21	330	927	83	193	10	4.9						
22	68	169	23	33	62	29						
23	44	63	16	17	43	19						
24	124	146	14	12	23	8.9						
25	68	74	8	5.7	26	10						
26	35	37	6	3.6	29	17						
27	23	20	151	138	8	4.0						
28	19	15	329	1060	4	1.7						
29	36	28	213	902	3	1.1						
30	12	8.2	27	61	15	5.2						
31	---	---	17	27	---	---						
TOTAL	---	9770.2	---	6537.4	---	17578.9						

BIG SANDY RIVER BASIN

429

03213000 TUG FORK AT LITWAR, WV

LOCATION.--Lat 37°29'05", long 81°50'40", McDowell County, Hydrologic Unit 05070201, on left bank 200 ft (61 m) downstream from War Branch, 0.5 mi (0.8 km) downstream from Litwar, 2.2 mi (3.5 km) northwest of Iaeger, 2.7 mi (4.3 km) downstream from Dry Fork, and at mile 105.6 (169.9 km).

DRAINAGE AREA.--505 mi² (1,308 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to current year.

REVISED RECORDS.--WSP 728: 1931. WSP 1335: 1930, 1931-35(M), 1937, 1943-46, 1947(M), 1948, 1949(P), 1950, 1952-53.

GAGE.--Water-stage recorder. Datum of gage is 936.36 ft (285.403 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1942, nonrecording gage at highway bridge 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Water-discharge records good except those for January, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 557 ft³/s (15.77 m³/s), 14.98 in/yr (380 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,500 ft³/s (1,540 m³/s) Apr. 4, 1977, gage height, 27.37 ft (8.342 m); minimum observed, 11 ft³/s (0.31 m³/s) Oct. 3, 4, 7, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,400 ft³/s (351 m³/s) June 7, gage height, 9.66 ft (2.944 m), no other peak above base of 6,000 ft³/s (170 m³/s); minimum daily, 80 ft³/s (2.3 m³/s) Jan. 12, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	96	157	131	119	404	432	567	1370	890	208	133
2	103	94	146	131	425	379	481	509	3660	474	204	165
3	110	92	149	126	656	340	467	453	2580	340	204	179
4	116	92	138	114	320	340	432	404	1830	330	208	253
5	112	96	136	94	236	870	560	373	2880	325	196	271
6	105	94	136	96	216	1430	843	357	3260	664	224	182
7	101	92	128	99	200	1120	726	340	7630	843	244	474
8	103	90	126	105	196	771	639	340	2990	481	622	216
9	107	96	128	98	160	567	590	330	1980	346	351	179
10	103	101	143	90	157	474	639	320	1520	305	253	157
11	103	92	141	86	258	397	950	350	1250	271	216	138
12	101	88	128	80	397	346	890	340	1010	249	368	131
13	99	88	121	84	373	320	753	320	980	240	310	121
14	96	88	121	90	305	295	717	340	870	950	240	126
15	94	88	119	100	249	262	762	390	708	1000	208	154
16	99	88	116	98	228	310	681	360	622	552	200	488
17	96	99	114	92	351	453	960	330	664	488	200	305
18	101	182	112	86	843	467	1940	300	567	351	175	200
19	101	168	110	80	753	446	1640	1190	516	315	162	162
20	99	131	107	82	880	384	3170	4250	481	280	160	143
21	99	110	101	100	1000	335	2900	1990	460	290	162	131
22	94	105	105	149	708	325	1850	1200	467	418	154	124
23	94	105	112	189	647	373	1420	870	397	315	143	116
24	99	481	119	186	861	516	1450	639	351	249	138	116
25	136	488	119	172	708	960	1210	545	357	240	138	113
26	232	262	105	151	545	940	980	481	495	224	133	108
27	141	208	121	149	425	798	870	590	351	208	138	106
28	114	193	116	154	351	622	726	2830	330	236	138	108
29	105	193	119	149	---	530	639	3530	310	373	136	106
30	103	175	124	136	---	502	597	2180	295	267	133	101
31	99	---	131	116	---	467	---	1730	---	228	138	---
TOTAL	3368	4375	3848	3613	12567	16743	30914	28748	41181	12742	6504	5306
MEAN	109	146	124	117	449	540	1030	927	1373	411	210	177
MAX	232	488	157	189	1000	1430	3170	4250	7630	1000	622	488
MIN	94	88	101	80	119	262	432	300	295	208	133	101
CFSM	.22	.29	.25	.23	.89	1.07	2.04	1.84	2.72	.81	.42	.35
IN.	.25	.32	.28	.27	.93	1.23	2.28	2.12	3.03	.94	.48	.39
CAL YR 1980	TOTAL	223871	MEAN 612	MAX 6310	MIN 88	CFSM 1.21	IN 16.49					
WTR YR 1981	TOTAL	169909	MEAN 466	MAX 7630	MIN 80	CFSM .92	IN 12.52					

BIG SANDY RIVER BASIN
03213000 TUG FORK AT LITWAR, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1980.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE.--Maximum recorded, 925 micromhos Sept. 9, 1980; minimum recorded, 205 micromhos July 11, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
07...	1235	99	850	--	14.0	--	--	--	--	--	--
20...	1740	99	1020	8.6	15.0	10.0	.32	1300	150	140	0
NOV											
14...	1215	85	950	8.5	6.0	--	--	--	--	--	--
JAN											
05...	1655	92	815	8.5	.0	15.0	.62	K270	420	150	0
20...	1310	82	950	8.3	.5	--	--	--	--	--	--
FEB											
18...	1615	868	338	7.9	10.5	11.2	.43	4000	980	100	--
APR											
07...	0915	767	330	7.3	9.0	--	--	--	--	--	--
16...	0805	690	390	8.0	11.5	9.6	.68	4300	680	110	6
JUN											
03...	1025	2490	260	7.6	16.0	--	--	--	--	--	--
09...	0915	2050	378	7.7	16.5	9.6	.85	6600	3700	120	49
JUL											
21...	0800	300	720	8.3	24.0	--	--	--	--	160	--
29...	1040	383	600	8.1	23.5	--	--	--	--	--	--
SEP											
24...	1605	119	650	8.4	17.5	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

03213000 TUG FORK AT LITWAR, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
OCT 20...	33	14	170	72	6.3	3.8	320	150	21	.3	.3
JAN 05...	35	14	130	66	4.7	2.8	250	140	23	.2	1.1
FEB 18...	28	7.8	29	--	1.2	--	79	53	13	<.1	6.3
APR 16...	26	10	44	47	1.9	2.1	110	71	7.6	.1	7.0
JUN 09...	30	12	27	32	1.1	2.1	80	83	4.2	.1	9.1
JUL 21...	37	16	88	--	3.4	--	210	130	9.9	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 20...	594	585	159	.01	.27	.31	.040	120	60	60
JAN 05...	504	497	125	.33	.29	.29	.050	--	--	100
FEB 18...	186	--	436	.28	.11	.15	<.010	600	550	50
APR 16...	224	228	417	.38	.26	.30	.030	--	--	0
JUN 09...	217	213	1200	.38	.10	.47	.020	820	760	60
JUL 21...	425	--	344	--	--	--	--	--	--	--

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- SOLVED (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)
OCT 20...	0	0	1	30	0	490	450	40	2	2
JAN 05...	--	--	--	--	--	--	--	20	--	--
FEB 18...	0	0	1	10	0	1000	980	20	6	3
APR 16...	--	--	--	--	--	--	--	20	--	--
JUN 09...	1	--	<1	10	0	2000	--	<10	5	5
JUL 21...	--	--	--	--	--	1300	1300	50	--	--

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 20...	0	30	10	20	<.1	--	<.1	20	20	0
JAN 05...	--	--	--	80	--	--	--	--	--	--
FEB 18...	3	90	40	50	.2	.1	.1	20	20	5
APR 16...	--	--	--	30	--	--	--	--	--	--
JUN 09...	0	90	70	20	<.1	--	<.1	30	10	20
JUL 21...	--	50	40	10	--	--	--	--	--	--

BIG SANDY RIVER BASIN

03213495 CRANE CREEK NEAR PANTHER, WV

LOCATION.--Lat 37°25'28", long 81°51'39", McDowell County, Hydrologic Unit 05070201, on left bank 100 ft (30 m) upstream from bridge on State Route 3/1, 200 ft (61 m) upstream from mouth, and Panther Creek, and 4 mi (6.4 km) southwest of Iaeger.

DRAINAGE AREA.--0.54 mi² (1.40 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,160.00 ft (353.568 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72 ft³/s (2.04 m³/s) June 6, gage height, 3.12 ft (0.951 m); minimum, less than 0.01 ft³/s (<0.001 m³/s) Oct. 14-16, 21-24, Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.10	.30	.23	.28	.48	.57	.32	.65	.16	.03	.04
2	.05	.10	.27	.23	2.7	.57	.67	.28	1.1	.09	.05	.03
3	.08	.08	.23	.24	1.1	.53	.67	.25	.88	.08	.07	.09
4	.09	.08	.21	.16	.62	.62	.61	.23	.66	.06	.06	.14
5	.07	.09	.21	.10	.41	1.5	1.6	.22	.67	.06	.04	.07
6	.05	.07	.20	.07	.35	1.0	1.8	.22	11	.19	.14	.13
7	.03	.06	.18	.06	.35	.80	1.1	.21	7.4	.12	.07	.15
8	.02	.04	.17	.05	.35	.50	.76	.18	1.7	.10	.22	.11
9	.02	.04	.23	.10	.26	.50	.67	.17	.78	.08	.09	.08
10	.02	.04	.21	.08	.30	.45	2.2	.16	.51	.10	.04	.03
11	.02	.04	.19	.07	.62	.42	3.7	.21	.38	.08	.04	.04
12	.02	.04	.18	.06	.50	.37	1.6	.17	.57	.04	.14	.05
13	.02	.02	.20	.10	.40	.36	1.1	.14	.89	.04	.05	.04
14	.01	.02	.17	.14	.53	.31	1.0	.14	.60	.82	.03	.04
15	.01	.03	.17	.16	.49	.28	.90	.31	.42	.28	.03	.24
16	.01	.03	.19	.14	.53	.45	.86	.18	.36	.19	.05	.24
17	.01	.20	.15	.12	1.9	.62	2.8	.14	.29	.13	.04	.08
18	.02	.41	.13	.12	2.3	.62	4.0	.14	.25	.09	.03	.04
19	.02	.19	.13	.11	1.1	.54	2.2	2.9	.22	.07	.06	.04
20	.02	.14	.10	.13	1.6	.47	5.5	3.9	.20	.07	.12	.05
21	.01	.11	.09	.32	1.1	.42	3.3	1.1	.18	.08	.10	.03
22	.01	.09	.08	.45	.78	.44	1.5	.60	.16	.08	.09	.03
23	.01	.12	.12	.49	1.1	.54	.95	.42	.14	.05	.08	.03
24	.01	1.8	.21	.43	1.1	1.5	.75	.33	.10	.04	.08	.02
25	.25	.51	.17	.37	.80	2.6	.61	.27	.15	.04	.07	.02
26	.12	.30	.12	.36	.60	2.0	.52	.25	.24	.03	.07	.02
27	.08	.30	.10	.32	.48	1.2	.46	.38	.12	.02	.10	.02
28	.10	.39	.08	.28	.46	.75	.41	.58	.09	.16	.12	.01
29	.15	.42	.12	.25	---	.64	.39	.76	.07	.16	.12	.01
30	.12	.36	.23	.23	---	.62	.37	.64	.08	.07	.15	.01
31	.12	---	.21	.21	---	.49	---	.58	---	.04	.08	---
TOTAL	1.61	6.22	5.35	6.18	23.11	22.59	43.57	16.38	30.86	3.62	2.46	1.93
MEAN	.052	.21	.17	.20	.83	.73	1.45	.53	1.03	.12	.079	.064
MAX	.25	1.8	.30	.49	2.7	2.6	5.5	3.9	11	.82	.22	.24
MIN	.01	.02	.08	.05	.26	.28	.37	.14	.07	.02	.03	.01
CFSM	.10	.39	.32	.37	1.54	1.35	2.69	.98	1.91	.22	.15	.12
IN.†	.11	.43	.37	.42	1.59	1.55	3.00	1.13	2.12	.25	.17	.13
IN.‡	1.70	3.36	1.31	0.92	3.62	2.76	4.74	4.65	6.17	3.59	2.86	2.16

WTR YR 1981 TOTAL 163.88 MEAN .45 MAX 11 MIN .01 CFSM .83 IN 11.26

† Runoff.
‡ Rainfall.

BIG SANDY RIVER BASIN

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03213495 CRANE CREEK NEAR PANTHER, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: October 1980 to September 1981 (discontinued).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 254 mg/L June 6; minimum daily mean, 0 mg/L many days during year.

SEDIMENT LOADS: Maximum daily, 27 tons (24 metric tons) June 6; minimum daily, 0 ton (0 metric ton) many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO3)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
OCT											
29...	1740	.01	--	--	11.0	--	--	--	--	--	--
NOV											
18...	1230	.36	69	6.0	7.0	--	--	--	--	--	--
DEC											
01...	1530	.28	36	6.5	7.0	--	--	--	--	--	--
12...	1445	.12	44	6.6	.1	--	--	--	--	--	--
FEB											
03...	1345	.89	41	6.4	1.0	9.2	17	--	<.1	3.8	1.9
23...	1400	1.1	40	6.6	7.0	10.4	15	8	<.1	3.1	1.8
MAR											
17...	1250	.66	45	6.2	5.0	11.8	--	--	--	--	--
23...	1500	.49	46	6.1	3.5	12.5	16	9	<.1	3.0	2.0
APR											
07...	1458	1.0	40	6.4	9.0	10.6	15	9	<.0	3.1	1.8
28...	1035	.42	55	6.6	12.0	13.6	18	9	<.0	3.7	2.2
MAY											
27...	1415	.45	59	6.5	14.0	10.3	18	7	<.0	3.9	2.1
JUN											
17...	1355	.30	68	6.5	17.5	--	21	10	<.0	4.5	2.4
JUL											
14...	1710	1.6	71	6.4	20.0	8.3	21	12	<.1	4.5	2.3
28...	1400	.25	114	7.4	21.0	--	31	10	--	7.0	3.4
AUG											
18...	1440	.03	122	7.2	17.0	7.5	32	10	--	7.2	3.5
SEP											
09...	1530	.08	108	7.3	16.0	--	--	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	FLUOR- IDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
FEB											
03...	2.5	--	.3	--	--	13	1.3	--	--	--	--
23...	2.4	--	.3	--	7	14	.7	--	--	--	--
MAR											
23...	2.9	--	.3	--	7	13	.7	--	--	--	--
APR											
07...	2.3	--	.3	--	6	11	.5	--	--	--	--
28...	3.3	--	.3	--	9	14	.6	--	--	--	--
MAY											
27...	2.7	--	.3	--	11	15	.9	--	--	--	--
JUN											
17...	3.5	--	.3	--	11	15	.7	--	--	45	--
JUL											
14...	2.9	--	.3	--	9	13	--	--	--	47	--
28...	4.0	--	.6	--	21	23	--	--	--	71	--
AUG											
18...	7.5	32	.6	1.7	22	24	.8	<.1	8.0	77	68

BIG SANDY RIVER BASIN

03213495 CRANE CREEK NEAR PANTHER, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL FM BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
17...	.06	.04	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	.06	.20	--	--	--	--	--	--	--	--	--	--	--
28...	.10	.05	--	--	--	--	--	--	--	--	--	--	--
AUG													
18...	.10	.01	<.010	.51	<.010	<.010	1	5	<50	<1	<1	<1	10

DATE	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PR)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
FEB											
03...	--	--	--	--	400	380	20	--	--	--	10
23...	--	--	--	--	130	150	30	--	--	--	10
MAR											
23...	--	--	--	--	70	--	<10	--	--	--	10
APR											
07...	--	--	--	--	150	130	20	--	--	--	10
28...	--	--	--	--	120	--	<10	--	--	--	10
MAY											
27...	--	--	--	--	220	--	<10	--	--	--	20
JUN											
17...	--	--	--	--	200	180	20	--	--	--	0
JUL											
14...	--	--	--	--	1000	930	70	--	--	--	30
28...	--	--	--	--	540	520	20	--	--	--	10
AUG											
18...	<10	10	4	<10	110	--	--	6300	17	10	10

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL FM BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CYANIDE TOTAL (MG/L AS CN)
FEB											
03...	9	1	--	--	--	--	--	--	--	--	--
23...	8	2	--	--	--	--	--	--	--	--	--
MAR											
23...	--	<1	--	--	--	--	--	--	--	--	--
APR											
07...	--	<1	--	--	--	--	--	--	--	--	--
28...	--	<1	--	--	--	--	--	--	--	--	--
MAY											
27...	--	<1	--	--	--	--	--	--	--	--	--
JUN											
17...	0	4	--	--	--	--	--	--	--	--	--
JUL											
14...	20	6	--	--	--	--	--	--	--	--	--
28...	6	4	--	--	--	--	--	--	--	--	--
AUG											
18...	--	--	330	<.1	<.01	<1	<1	<1	20	15	<.01

03213495 CRANE CREEK NEAR PANTHER, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2	.00	2	.00	2	.00	2	.00	2	.00	1	.00
2	2	.00	2	.00	3	.00	2	.00	23	.20	1	.00
3	2	.00	2	.00	3	.00	2	.00	3	.00	1	.00
4	2	.00	2	.00	3	.00	2	.00	2	.00	4	.00
5	2	.00	2	.00	2	.00	2	.00	2	.00	17	.07
6	2	.00	2	.00	1	.00	1	.00	1	.00	3	.00
7	2	.00	2	.00	2	.00	1	.00	1	.00	2	.00
8	2	.00	2	.00	3	.00	1	.00	2	.00	1	.00
9	2	.00	2	.00	3	.00	1	.00	2	.00	1	.00
10	2	.00	2	.00	3	.00	1	.00	3	.00	1	.00
11	2	.00	2	.00	3	.00	1	.00	6	.01	1	.00
12	2	.00	2	.00	3	.00	1	.00	2	.00	1	.00
13	2	.00	2	.00	2	.00	1	.00	2	.00	1	.00
14	2	.00	1	.00	2	.00	2	.00	2	.00	1	.00
15	2	.00	1	.00	3	.00	3	.00	2	.00	1	.00
16	2	.00	2	.00	3	.00	3	.00	4	.00	5	.00
17	2	.00	8	.00	2	.00	3	.00	15	.10	1	.00
18	2	.00	9	.01	2	.00	2	.00	6	.04	2	.00
19	2	.00	3	.00	2	.00	1	.00	5	.01	2	.00
20	2	.00	3	.00	2	.00	1	.00	5	.02	2	.00
21	2	.00	3	.00	2	.00	7	.00	5	.01	2	.00
22	2	.00	2	.00	2	.00	1	.00	5	.01	2	.00
23	2	.00	3	.00	2	.00	1	.00	12	.04	8	.01
24	2	.00	107	.86	2	.00	1	.00	0	.00	26	.13
25	11	.00	5	.00	2	.00	1	.00	0	.00	19	.13
26	3	.00	3	.00	2	.00	1	.00	0	.00	11	.06
27	2	.00	3	.00	2	.00	1	.00	0	.00	4	.01
28	4	.00	3	.00	1	.00	2	.00	0	.00	2	.00
29	5	.00	3	.00	1	.00	3	.00	---	---	2	.00
30	3	.00	2	.00	1	.00	2	.00	---	---	2	.00
31	2	.00	---	---	2	.00	1	.00	---	---	2	.00
TOTAL	---	0.00	---	0.87	---	0.00	---	0.00	---	0.44	---	0.41
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14	.03	2	.00	18	.03	4	.00	2	.00	0	.00
2	3	.00	2	.00	10	.03	2	.00	1	.00	0	.00
3	2	.00	2	.00	9	.02	3	.00	1	.00	17	.00
4	2	.00	2	.00	16	.04	3	.00	0	.00	4	.00
5	23	.10	2	.00	10	.02	5	.00	1	.00	2	.00
6	9	.04	2	.00	254	.27	11	.00	8	.00	11	.00
7	7	.02	2	.00	94	.30	3	.00	4	.00	7	.00
8	6	.01	2	.00	12	.06	2	.00	25	.02	2	.00
9	5	.00	2	.00	10	.02	1	.00	8	.00	2	.00
10	119	1.4	3	.00	8	.01	2	.00	3	.00	2	.00
11	34	.34	15	.00	5	.00	2	.00	3	.00	2	.00
12	16	.07	7	.00	51	.24	3	.00	11	.00	2	.00
13	17	.05	5	.00	5	.01	3	.00	2	.00	2	.00
14	10	.03	6	.00	9	.01	102	.60	3	.00	2	.00
15	8	.02	20	.02	6	.00	7	.00	3	.00	13	.00
16	7	.02	5	.00	10	.01	4	.00	2	.00	6	.00
17	41	.43	4	.00	10	.01	2	.00	1	.00	2	.00
18	12	.13	10	.00	4	.00	2	.00	2	.00	2	.00
19	5	.03	74	.81	4	.00	2	.00	6	.00	2	.00
20	199	3.2	12	.14	4	.00	1	.00	0	.00	2	.00
21	25	.22	4	.03	4	.00	1	.00	0	.00	1	.00
22	20	.08	8	.01	4	.00	1	.00	0	.00	1	.00
23	15	.04	8	.00	3	.00	1	.00	0	.00	1	.00
24	10	.02	7	.00	4	.00	1	.00	0	.00	1	.00
25	5	.00	5	.00	17	.01	0	.00	0	.00	0	.00
26	2	.00	4	.00	10	.00	0	.00	0	.00	0	.00
27	2	.00	18	.02	3	.00	1	.00	0	.00	0	.00
28	2	.00	7	.01	3	.00	28	.01	0	.00	1	.00
29	2	.00	7	.01	3	.00	5	.00	0	.00	1	.00
30	2	.00	18	.03	8	.00	1	.00	0	.00	1	.00
31	---	---	11	.02	---	---	3	.00	0	.00	---	---
TOTAL	---	6.28	---	1.10	---	30.52	---	0.61	---	0.02	---	0.00
TOTAL LOAD FOR YEAR:			40.25 TONS.									

TOTAL LOAD FOR YEAR: 40.25 TONS.

BIG SANDY RIVER BASIN

03213500 PANTHER CREEK NEAR PANTHER, WV

LOCATION.--Lat 37°26'45", long 81°52'15", McDowell County, Hydrologic Unit 05070201, on left bank 200 ft (61 m) downstream from Cub Branch, 2.1 mi (3.4 km) upstream from Trace Fork, 3.0 mi (4.8 km) southwest of Panther, and at mile 4.1 (6.6 km).

DRAINAGE AREA.--31.0 mi² (80.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1946 to current year.

REVISED RECORDS.--WSP 1505: 1955(P). WSP 1908: 1955(M), 1957(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,050 ft (320 m), from topographic map.

REMARKS.--Water-discharge records good except those for January, February, and March, which are poor.

AVERAGE DISCHARGE.--35 years, 36.5 ft³/s (1.034 m³/s), 15.99 in/yr (406 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,600 ft³/s (187 m³/s) Apr. 4, 1977, gage height, 12.10 ft (3.688 m), from floodmarks, from rating curve extended above 2,800 ft³/s (79 m³/s) on basis of slope-area measurement at gage height 10.67 ft (3.252 m); no flow at times during August and September 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,200 ft³/s (90.6 m³/s) June 6, gage height, 9.40 ft (2.865 m), no other peak above base of 700 ft³/s (20 m³/s); minimum, 0.42 ft³/s (0.012 m³/s) Oct. 24, gage height, 2.37 ft (0.722 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	2.0	13	14	13	31	34	12	27	11	1.5	3.7
2	3.9	.89	12	13	105	29	36	8.5	66	11	1.7	3.3
3	4.3	.74	10	12	70	28	36	7.4	56	9.8	1.8	4.8
4	2.6	.67	8.6	9.6	40	32	34	7.1	76	8.5	4.1	13
5	2.1	.82	8.9	6.8	20	132	65	6.5	294	6.8	2.3	5.1
6	1.7	.89	7.0	8.0	17	142	92	6.5	602	17	9.8	5.1
7	3.5	.82	5.9	9.6	14	92	71	5.6	579	12	5.3	21
8	3.5	.67	5.4	11	20	59	56	4.3	105	9.4	25	5.1
9	3.5	.67	6.7	7.2	11	44	49	4.6	52	6.8	8.9	3.7
10	3.3	.67	7.3	6.8	17	37	113	4.6	39	6.2	4.8	2.4
11	3.3	.97	6.7	6.4	25	30	210	5.9	33	5.3	3.7	2.1
12	3.2	1.5	6.7	6.0	40	25	110	5.3	34	4.6	5.6	1.6
13	3.2	1.5	6.7	6.8	35	25	84	4.8	50	4.6	3.7	1.4
14	3.9	1.4	5.9	8.0	25	21	90	3.7	32	25	2.4	1.3
15	3.2	1.4	5.6	7.6	18	18	70	8.9	23	13	2.4	4.3
16	3.2	1.5	6.2	7.0	30	34	58	3.5	18	6.8	2.4	16
17	3.2	3.2	5.2	6.4	70	53	111	2.7	29	4.8	2.1	5.6
18	1.6	18	4.5	5.8	123	52	180	2.9	17	3.3	2.1	3.2
19	1.1	9.6	4.9	6.0	81	45	119	101	15	2.6	1.6	2.6
20	3.0	6.2	5.4	6.2	103	37	336	252	13	3.0	1.6	1.9
21	2.5	4.5	4.9	9.3	93	30	150	74	12	5.1	1.3	1.6
22	3.2	3.9	5.4	20	61	26	69	33	11	3.0	1.2	1.7
23	1.6	3.7	5.9	26	70	34	44	20	9.4	2.3	1.1	1.3
24	.55	83	8.6	23	87	59	34	14	8.0	1.8	1.1	1.4
25	3.3	40	12	18	62	123	28	11	10	1.6	1.5	1.3
26	4.9	18	11	17	44	102	21	8.5	20	1.3	1.1	1.4
27	2.0	15	10	16	34	76	18	12	9.8	1.1	1.1	1.3
28	1.3	16	9.0	15	30	55	16	18	7.4	2.7	1.1	1.2
29	4.3	20	8.6	14	---	44	14	16	6.8	7.1	1.1	1.2
30	5.2	17	11	13	---	44	14	16	7.1	2.7	1.1	1.3
31	3.9	---	13	13	---	40	---	19	---	1.6	1.4	---
TOTAL	93.95	275.21	242.0	348.5	1358	1599	2362	699.3	2261.5	201.8	105.9	120.9
MEAN	3.03	9.17	7.81	11.2	48.5	51.6	78.7	22.6	75.4	6.51	3.42	4.03
MAX	5.2	83	13	26	123	142	336	252	602	25	25	21
MIN	.55	.67	4.5	5.8	11	18	14	2.7	6.8	1.1	1.1	1.2
CFSM	.10	.30	.25	.36	1.57	1.67	2.54	.73	2.43	.21	.11	.13
IN.	.11	.33	.29	.42	1.63	1.92	2.83	.84	2.71	.24	.13	.15
CAL YR 1980	TOTAL	9180.90	MEAN	25.1	MAX	332	MIN	.55	CFSM	.81	IN	11.02
WTR YR 1981	TOTAL	9668.06	MEAN	26.5	MAX	602	MIN	.55	CFSM	.86	IN	11.60

BIG SANDY RIVER BASIN

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03213500 PANTHER CREEK NEAR PANTHER, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1979 to September 1980.

INSTRUMENTATION.--Conductance recorder December 1979 to September 1980.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 3,120 micromhos Feb. 13, 1980; minimum recorded, 45 micromhos Apr. 27, 28, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
06...	1430	1.8	580	--	12.0	--	--	--	--	--	--
20...	1915	3.0	1010	8.5	12.5	9.9	.37	K2	350	51	0
NOV											
14...	0830	1.4	640	7.8	5.0	--	--	--	--	--	--
DEC											
01...	1625	1.2	200	--	5.5	--	--	--	--	--	--
JAN											
05...	1825	7.0	517	8.1	.0	14.6	.35	K3	K22	40	0
07...	1205	9.5	490	8.2	.0	--	--	--	--	--	--
FEB											
18...	1120	131	95	6.9	7.0	--	--	--	--	--	--
19...	0935	84	92	7.2	7.0	12.2	.54	110	40	22	--
APR											
07...	1450	71	115	6.8	11.0	--	--	--	--	--	--
16...	1000	59	124	7.4	9.0	10.6	.42	21	96	23	0
JUN											
01...	1515	22	210	--	18.5	--	--	--	--	--	--
02...	1120	66	130	6.6	16.0	--	--	--	--	--	--
08...	1850	80	104	7.1	17.5	9.8	.58	340	1600	26	5
JUL											
21...	0935	5.0	364	8.1	23.0	--	--	--	--	52	--
29...	1410	5.4	200	6.9	23.0	--	--	--	--	--	--
SEP											
24...	1010	.90	268	8.0	11.0	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

03213500 PANTHER CREEK NEAR PANTHER, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACC3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
OCT 20...	13	4.6	230	90	14	2.6	320	190	7.3	.4	5.7
JAN 05...	9.7	3.8	93	83	6.4	1.6	160	84	3.8	.2	7.0
FEB 19...	5.3	2.2	10	--	.9	--	20	19	1.8	<.1	8.4
APR 16...	5.3	2.4	16	57	1.4	2.3	35	24	1.7	<.1	8.3
JUN 08...	5.9	2.7	9.2	42	.8	1.4	22	21	1.7	<.1	8.4
JUL 21...	13	4.8	56	--	3.4	--	110	59	1.6	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 20...	610	646	4.9	.01	.34	.36	.020	90	70	20
JAN 05...	324	300	6.1	.21	.14	.14	.000	--	--	100
FEB 19...	64	--	14.5	.38	.12	.16	.020	260	240	20
APR 16...	69	77	11.0	.20	--	.22	<.010	--	--	100
JUN 08...	57	63	12.3	.21	.32	.37	<.010	500	480	20
JUL 21...	212	--	2.8	--	--	--	--	--	--	--

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- SOLVED (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)
OCT 20...	0	0	1	30	0	450	170	280	1	1
JAN 05...	--	--	--	--	--	--	--	140	--	--
FEB 19...	0	--	<1	<10	0	460	410	50	3	0
APR 16...	--	--	--	--	--	--	--	40	--	--
JUN 08...	1	--	<1	20	0	1100	1100	30	4	4
JUL 21...	--	--	--	--	--	350	340	10	--	--

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 20...	0	10	1	9	<.1	--	<.1	30	30	0
JAN 05...	--	--	--	7	--	--	--	--	--	--
FEB 19...	3	20	20	5	.1	.0	.1	20	--	<4
APR 16...	--	--	--	8	--	--	--	--	--	--
JUN 08...	0	40	30	10	<.1	--	<.1	10	0	10
JUL 21...	--	20	10	10	--	--	--	--	--	--

BIG SANDY RIVER BASIN

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03213700 TUG FORK AT WILLIAMSON, WV

LOCATION.--Lat 37°40'21", long 82°16'50", Pike County, Ky., Hydrologic Unit 05070201, on left bank at Williamson, 100 ft (30 m) upstream from bridge on U.S. Highway 119, 0.8 mi (1.3 km) downstream from Pond Creek, and at mile 56.4 (90.7 km).

DRAINAGE AREA.--936 mi² (2,424 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year. Gage-height records collected in this vicinity since 1926 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 620.90 ft (189.250 m) National Geodetic Vertical Datum of 1929, (levels by Corps of Engineers). Prior to Jan. 21, 1969, at datum 0.92 ft (0.280 m) lower.

REMARKS.--Water-discharge records good except those for January, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--14 years, 1,215 ft³/s (34.41 m³/s), 17.63 in/yr (448 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s (2660 m³/s) Apr. 5, 1977, gage height, 52.56 ft (16.020 m), from floodmarks, from rating curve extended above 18,000 ft³/s (510 m³/s); minimum, 59 ft³/s (1.67 m³/s) Oct. 18-20, 1969, gage height, 2.04 ft (0.622 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Jan. 30, 1957, Mar. 12, 1963, and Mar. 7, 1967, reached stages of 43.6 ft (13.29 m), 44.5 ft (13.56 m), and 40.7 ft (12.41 m) respectively, from readings by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,200 ft³/s (742 m³/s) June 7, gage height, 32.79 ft (9.994 m), no other peak above base of 9,000 ft³/s (250 m³/s); minimum, 103 ft³/s (2.92 m³/s) Nov. 7, gage height, 2.12 ft (0.646 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	187	151	423	380	257	1150	860	900	2430	653	292	165
2	180	139	393	400	1460	1300	1010	816	4360	820	267	177
3	180	127	405	350	2180	1070	1000	728	4930	562	267	180
4	190	121	369	290	1200	928	948	664	4880	523	280	272
5	192	119	345	180	796	2550	1210	625	5650	467	282	295
6	182	123	324	220	656	3780	2230	600	5590	964	290	295
7	163	123	303	270	576	2750	1820	583	21100	1040	342	235
8	151	123	277	260	534	1830	1440	544	7540	904	387	441
9	147	117	295	260	481	1350	1240	492	3800	604	660	262
10	153	123	354	240	435	1070	1300	467	2570	492	417	217
11	149	133	354	160	558	916	2420	464	2000	426	315	182
12	137	135	342	120	844	812	2040	534	1560	387	306	165
13	135	125	318	140	904	720	1560	509	1440	354	399	153
14	129	117	295	197	884	653	1330	453	1310	369	348	149
15	121	121	275	197	756	593	1250	579	1070	1440	275	217
16	123	129	275	200	664	628	1100	607	936	836	262	295
17	123	157	262	180	964	932	1480	492	900	653	255	506
18	119	399	238	150	2420	1040	3960	457	852	551	240	342
19	123	499	222	140	2130	976	3520	988	740	444	212	247
20	129	357	202	150	2000	880	4480	6010	676	411	190	202
21	119	280	165	197	2340	788	6540	4160	646	411	192	180
22	125	235	155	312	1750	720	3750	2150	607	450	197	165
23	117	215	153	492	1610	848	2580	1420	597	495	187	157
24	115	768	230	541	2180	1380	2220	1060	534	399	173	145
25	192	1840	250	474	1820	2330	1950	876	488	321	169	135
26	321	884	230	420	1360	2270	1560	760	639	297	163	133
27	345	600	210	399	1040	1830	1340	680	628	292	161	127
28	247	544	320	384	880	1440	1160	1580	488	324	161	121
29	205	516	300	354	---	1130	1020	4340	435	453	161	119
30	180	495	340	315	---	1020	960	3070	414	481	159	117
31	165	---	370	275	---	956	---	2730	---	345	161	---
TOTAL	5144	9815	8994	8647	33679	40640	59278	40338	79810	17168	8170	6396
MEAN	166	327	290	279	1203	1311	1976	1301	2660	554	264	213
MAX	345	1840	423	541	2420	3780	6540	6010	21100	1440	660	506
MIN	115	117	153	120	257	593	860	453	414	292	159	117
CFSM	.18	.35	.31	.30	1.29	1.40	2.11	1.39	2.84	.59	.28	.23
IN.	.20	.39	.36	.34	1.34	1.62	2.36	1.60	3.17	.68	.32	.25

CAL YR 1980	TOTAL	399210	MEAN	1091	MAX	8750	MIN	115	CFSM	1.17	IN	15.87
WTR YR 1981	TOTAL	318079	MEAN	871	MAX	21100	MIN	115	CFSM	.93	IN	12.64

BIG SANDY RIVER BASIN
03213700 TUG FORK AT WILLIAMSON, WV--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
21...	1030	119	936	8.2	13.5	9.9	.24	960	240	170	0
22...	1200	122	880	7.9	14.5	--	--	--	--	--	--
DEC											
02...	1205	374	425	7.3	6.5	--	--	--	--	--	--
JAN											
06...	1015	220	558	8.0	.5	14.8	.53	640	210	140	0
14...	1210	201	700	8.0	.5	--	--	--	--	--	--
FEB											
19...	1405	2060	240	7.6	10.0	11.0	.94	4100	860	83	--
25...	1045	1840	260	7.2	7.0	--	--	--	--	--	--
APR											
15...	1815	1220	312	7.9	16.0	8.9	1.2	3000	420	91	24
21...	1500	6200	200	6.7	12.5	--	--	--	--	--	--
JUN											
09...	1300	3690	282	7.3	19.5	8.7	.81	K6800	6800	110	65
23...	1605	578	700	7.8	26.0	--	--	--	--	--	--
AUG											
12...	1720	301	550	7.8	27.5	--	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
OCT											
21...	39	18	120	60	4.0	4.2	230	180	20	.3	.8
JAN											
06...	33	14	60	48	2.2	2.8	140	120	13	.2	3.3
FEB											
19...	21	7.5	16	--	.8	--	46	51	7.0	<.1	7.7
APR											
15...	21	9.3	22	34	1.0	2.2	65	70	5.4	.1	6.9
JUN											
09...	27	11	18	25	.7	2.3	53	80	3.7	<.1	9.4

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDED RECOV- (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
21...	543	521	174	.01	.21	.23	.010	120	40	80
JAN										
06...	340	331	202	.30	.23	.23	.010	--	--	200
FEB										
19...	147	--	818	.63	.25	.31	<.010	1800	1700	70
APR										
15...	173	177	570	.49	.58	.66	.020	--	--	100
JUN										
09...	193	180	1920	.42	.04	.39	<.010	1000	950	50

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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03213700 TUG FORK AT WILLIAMSON, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE D RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)
OCT 21...	0	0	1	30	0	590	570	20	1	1
JAN 06...	--	--	--	--	--	--	--	350	--	--
FEB 19...	0	--	<1	20	0	260	230	30	8	8
APR 15...	--	--	--	--	--	--	--	30	--	--
JUN 09...	1	0	2	10	0	2500	--	<10	6	6

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE D RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	0	110	40	70	<.1	--	<.1	30	30	0
JAN 06...	--	--	--	150	--	--	--	--	--	--
FEB 19...	0	120	80	40	.2	.0	.2	30	--	<4
APR 15...	--	--	--	30	--	--	--	--	--	--
JUN 09...	0	140	60	80	<.1	--	<.1	30	10	20

BIG SANDY RIVER BASIN

03213800 PIGEON CREEK NEAR LENORE, WV

LOCATION.--Lat 37°47'13", long 82°15'44", Mingo County, Hydrologic Unit 05070201, at private bridge, 0.4 mi (0.6 km) downstream from Hensley Big Branch, 1.5 mi (2.4 km) southeast of Lenore and at mile 6.1 (9.8 km).

DRAINAGE AREA.--93.9 mi² (243 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 630 ft (192 m), from topographic map.

REMARKS.--Water-discharge records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,440 ft³/s (267 m³/s) Dec. 9, 1978, gage height, 19.08 ft (5.816 m), from rating curve extended above 1,000 ft³/s (28 m³/s); minimum, 7.0 ft³/s (0.20 m³/s) Sept. 30, 1981, gage height, 2.30 ft (0.701 m).

EXTREMES FOR CURRENT PERIOD.--Water year 1979: Maximum discharge, 9,440 ft³/s (267 m³/s) Dec. 9, gage height, 19.08 ft (5.816 m), from rating curve extended above 1,000 ft³/s (28 m³/s); minimum daily, 8.1 ft³/s (0.23 m³/s) Nov. 2-6.

Water year 1980: Maximum discharge, 1,830 ft³/s (51.8 m³/s) Aug. 18, gage height, 6.59 ft (2.009 m), from rating curve extended above 1,000 ft³/s (28 m³/s); minimum daily, 12 ft³/s (0.34 m³/s) June 28 to July 2.

Water year 1981: Maximum discharge, 6,520 ft³/s (185 m³/s) June 6, gage height, 13.24 ft (4.036 m), from rating curve extended above 1,000 ft³/s (28 m³/s); minimum, 7.0 ft³/s (0.20 m³/s) Sept. 30, gage height, 2.30 ft (0.701 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	8.4	25	404	135	287	168	94	178	135	135	53
2	---	8.1	22	2020	115	238	388	87	178	105	110	77
3	---	8.1	40	468	113	190	1760	82	268	79	87	54
4	---	8.1	1030	271	110	202	986	100	392	90	68	44
5	---	8.1	296	195	96	283	518	139	249	130	55	42
6	---	8.1	141	156	90	271	343	139	154	170	48	43
7	---	8.4	141	1050	84	215	246	131	103	110	47	39
8	---	9.0	2650	1420	78	187	200	115	79	90	42	35
9	---	9.0	6660	460	70	149	238	100	84	80	40	30
10	---	8.7	823	280	59	152	249	91	92	168	35	28
11	---	8.4	305	187	60	243	224	79	121	131	33	26
12	---	8.4	180	145	68	235	195	70	79	113	52	24
13	---	8.4	135	133	85	192	168	94	59	115	49	22
14	---	8.4	106	127	87	180	165	76	48	113	39	28
15	---	9.3	89	101	208	145	143	65	41	1030	32	35
16	---	16	76	96	1190	123	127	55	35	468	30	24
17	---	15	68	96	484	112	117	47	55	252	28	22
18	---	12	57	87	293	105	105	43	46	175	27	20
19	---	10	55	79	207	98	96	39	513	131	39	19
20	8.7	9.6	57	1100	168	92	91	35	429	113	73	19
21	8.7	9.0	263	4340	200	85	84	33	480	103	67	80
22	8.4	8.7	268	1580	264	77	77	30	3530	89	262	414
23	8.4	9.0	173	536	302	87	73	70	2440	82	327	246
24	8.4	12	141	595	1480	392	70	202	563	77	121	152
25	8.4	10	173	627	1310	464	65	271	317	67	84	98
26	9.0	10	163	381	857	302	76	302	202	628	119	73
27	13	29	137	287	501	224	103	241	141	768	478	61
28	10	27	112	271	327	175	115	1320	108	926	197	61
29	9.3	21	94	215	---	149	106	429	94	429	121	64
30	8.7	27	94	180	---	131	101	207	143	293	85	57
31	8.7	---	195	161	---	119	---	154	---	195	68	---
TOTAL	---	352.2	14769	18048	9041	5904	7397	4940	11221	7455	2998	1990
MEAN	---	11.7	476	582	323	190	247	159	374	240	96.7	66.3
MAX	---	29	6660	4340	1480	464	1760	1320	3530	1030	478	414
MIN	---	8.1	22	79	59	77	65	30	35	67	27	19
CFSM	---	.13	5.07	6.20	3.44	2.02	2.63	1.69	3.98	2.56	1.03	.71
IN.	---	.14	5.85	7.15	3.58	2.34	2.93	1.96	4.45	2.95	1.19	.79

BIG SANDY RIVER BASIN

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03213800 PIGEON CREEK NEAR LENORE, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	32	127	110	96	133	200	178	31	12	22	42
2	49	470	106	92	86	133	185	158	27	12	18	41
3	49	414	84	80	78	123	175	139	25	15	16	68
4	39	246	79	84	72	123	195	123	23	17	17	46
5	43	165	71	82	67	631	175	108	22	27	21	41
6	39	133	70	71	64	968	161	98	20	21	24	35
7	38	108	65	77	62	448	149	85	19	15	37	33
8	36	85	56	94	60	343	156	77	19	14	30	32
9	36	89	50	100	58	268	432	71	18	83	20	31
10	108	299	46	100	57	226	302	63	17	169	18	92
11	115	347	44	94	56	190	224	59	18	121	17	54
12	103	302	49	133	56	161	195	55	16	46	46	44
13	221	274	272	133	56	158	187	51	16	103	16	37
14	252	215	293	165	61	238	333	59	14	57	18	33
15	168	168	202	165	87	218	385	46	14	36	16	31
16	121	141	154	161	660	197	317	43	16	28	16	30
17	87	113	121	154	480	210	261	41	16	25	15	29
18	73	103	98	306	293	490	221	60	14	22	363	28
19	59	89	89	484	218	440	190	45	14	19	360	26
20	48	77	79	330	207	321	156	65	13	19	143	25
21	47	68	70	243	243	410	139	77	13	18	77	31
22	42	61	61	226	790	440	119	55	13	18	652	64
23	39	59	68	388	464	330	105	49	13	39	175	100
24	37	152	87	347	321	290	96	43	13	27	96	61
25	36	207	202	283	255	350	87	43	13	21	68	56
26	36	672	347	210	221	317	79	39	13	19	55	46
27	29	425	311	180	185	261	168	33	13	23	48	37
28	37	287	229	152	185	258	221	32	12	43	42	31
29	46	197	175	135	156	277	182	29	12	33	38	26
30	37	156	149	115	---	255	180	27	12	25	81	24
31	32	---	133	113	---	243	---	32	---	21	51	---
TOTAL	2126	6154	3987	5407	5694	9450	5975	2083	499	1148	2616	1274
MEAN	68.6	205	129	174	196	305	199	67.2	16.6	37.0	84.4	42.5
MAX	252	672	347	484	790	968	432	178	31	169	652	100
MIN	24	32	44	71	56	123	79	27	12	12	15	24
CFSM	.73	2.18	1.37	1.85	2.09	3.25	2.12	.72	.18	.39	.90	.45
IN.	.84	2.44	1.58	2.14	2.26	3.74	2.37	.83	.20	.45	1.04	.50
CAL YR 1979	TOTAL	81261	MEAN 223	MAX 4340	MIN 19	CFSM 2.38	IN 32.19					
WTR YR 1980	TOTAL	46413	MEAN 127	MAX 968	MIN 12	CFSM 1.35	IN 18.39					

BIG SANDY RIVER BASIN

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	10	46	53	45	290	87	72	440	60	20	9.3
2	24	10	45	54	595	286	85	62	604	33	18	13
3	24	9.3	57	51	331	217	84	55	557	27	17	21
4	23	9.3	51	43	202	186	82	51	613	27	17	45
5	21	9.3	49	37	137	576	155	45	971	46	16	17
6	18	10	46	35	109	539	189	43	1700	701	34	13
7	15	9.3	44	33	93	360	171	40	2700	290	21	12
8	13	9.3	40	31	99	245	142	39	562	125	26	17
9	12	9.3	48	30	82	180	142	35	305	80	21	17
10	12	9.3	70	28	85	147	166	30	290	61	17	11
11	11	9.3	67	27	72	122	211	30	279	51	15	10
12	11	8.1	62	26	132	103	199	32	192	43	16	9.3
13	10	8.1	58	25	160	91	157	29	195	35	14	8.7
14	9.3	8.1	51	33	125	82	134	27	269	89	14	11
15	9.3	8.1	48	31	113	73	111	48	166	87	13	33
16	8.7	8.1	45	29	105	89	93	34	111	58	14	31
17	8.1	16	43	27	205	91	351	29	91	46	16	19
18	9.3	60	37	26	324	89	534	31	70	38	14	14
19	10	39	35	29	262	87	339	157	60	34	12	11
20	9.3	33	28	30	305	82	393	269	55	30	12	10
21	11	29	25	43	265	75	389	160	51	30	12	9.3
22	11	27	25	58	202	73	279	103	46	57	12	8.7
23	9.3	25	30	67	335	87	248	73	40	30	12	8.7
24	8.1	232	43	70	385	122	269	60	36	27	12	7.5
25	27	157	37	65	265	142	205	51	34	25	11	7.5
26	21	82	36	62	189	134	155	53	34	22	11	7.5
27	15	70	36	60	155	122	122	49	30	21	10	8.1
28	14	62	35	58	142	109	101	84	26	34	10	8.1
29	12	55	35	51	---	95	91	122	25	31	10	8.7
30	11	53	51	45	---	97	82	139	25	24	10	7.5
31	11	---	51	37	---	87	---	486	---	21	11	---
TOTAL	432.4	1084.9	1374	1294	5519	5078	5766	2538	10577	2283	468	413.9
MEAN	13.9	36.2	44.3	41.7	197	164	192	81.9	353	73.6	15.1	13.8
MAX	27	232	70	70	595	576	534	486	2700	701	34	45
MIN	8.1	8.1	25	25	45	73	82	27	25	21	10	7.5
CFSM	.15	.39	.47	.44	2.10	1.75	2.05	.87	3.76	.78	.16	.15
IN.	.17	.43	.54	.51	2.19	2.01	2.28	1.01	4.19	.90	.19	.16
CAL YR 1980	TOTAL	37037.3	MEAN 101	MAX 968	MIN 8.1	CFSM 1.08	IN 14.67					
WTR YR 1981	TOTAL	36828.2	MEAN 101	MAX 2700	MIN 7.5	CFSM 1.08	IN 14.59					

BIG SANDY RIVER BASIN

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03213800 PIGEON CREEK NEAR LENORE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1978 to June 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE:--October 1980 to September 1981 (discontinued).

WATER TEMPERATURE: January 1980 to September 1981 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: February to November 1979, January 1980 to September 1981 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,200 micromhos Sept. 8, 1981; minimum daily, 128 micromhos June 7, 1981.

WATER TEMPERATURES: Maximum daily, 30.0°C July 20, 21, 1980; minimum daily, 1.0°C several days in 1980 and 1981.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,140 mg/L June 22, 1979; minimum daily mean, 1 mg/L several days in 1981.

SEDIMENT LOADS: Maximum daily, 22,500 tons (20,400 metric tons) June 22, 1979; minimum daily, 0.07 ton (0.06 metric ton) Jan. 11, 16-18, 1981.

EXTREMES FOR PERIOD FEBRUARY TO SEPTEMBER 1979.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,140 mg/L June 22; minimum daily mean, 1 mg/L Apr. 19, 21.

SEDIMENT LOADS: Maximum daily, 22,500 tons (20,400 metric tons) June 22; minimum daily, 0.19 ton (0.17 metric ton) May 20.

EXTREMES FOR 1980 WATER YEAR.--

WATER TEMPERATURES: Maximum daily for period January through September, 30.0°C July 20, 21; minimum daily, 1.0°C Feb. 4-8, 11, 17.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,820 mg/L July 13; minimum daily mean, 1 mg/L Jan. 16.

SEDIMENT LOADS: Maximum daily, 3,060 tons (2,780 metric tons) Aug. 18; minimum daily, 0.09 ton (0.08 metric ton) June 10.

EXTREMES FOR 1981 WATER YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,200 micromhos Sept. 8; minimum daily, 128 micromhos, June 7.

WATER TEMPERATURES: Maximum daily, 28.0°C July 27, Aug. 5; minimum daily, 1.0°C several days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,310 mg/L July 6; minimum daily mean, 1 mg/L several days during year.

SEDIMENT LOADS: Maximum daily, 14,400 tons (13,100 metric ton) June 6; minimum daily 0.07 ton (0.06 metric ton) Jan. 11-13.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
NOV , 1979												
07...	1640	96	280	7.9	10.0	--	--	--	--	--	--	--
DEC												
12...	1355	42	430	7.6	9.5	--	--	--	--	--	--	--
FEB , 1980												
05...	1455	68	420	7.6	.5	--	--	--	--	--	--	--
26...	1110	210	222	6.1	2.0	--	--	.62	640	140	58	16
MAR												
26...	1020	359	150	7.5	7.0	--	--	--	--	--	55	30
29...	1515	284	240	7.2	13.0	--	--	--	--	--	--	--
APR												
02...	1330	182	220	7.2	14.0	--	--	--	--	--	--	--
23...	1045	106	290	7.7	15.5	--	5.9	.47	670	380	77	24
MAY												
07...	1740	82	320	8.1	20.5	--	--	--	--	--	--	--
15...	1430	45	480	8.4	19.0	--	--	--	--	--	--	--
20...	1030	40	480	7.7	17.5	--	--	1.6	K3800	730	100	4

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
JUN , 1980												
11...	1300	18	840	8.3	19.0	--	--	--	--	--	--	--
18...	1015	14	750	8.0	18.5	--	--	.55	1000	710	130	0
18...	1450	14	800	7.9	22.5	--	--	--	--	--	--	--
JUL												
16...	1200	28	507	8.2	25.5	--	--	.69	3900	880	110	0
16...	1720	27	500	8.2	30.0	--	--	--	--	--	--	--
29...	1530	28	310	7.5	25.5	--	--	--	--	--	--	--
AUG												
08...	1115	26	468	8.1	24.0	--	--	.75	K12000	K9800	110	0
13...	1440	20	540	8.2	26.0	--	--	--	--	--	--	--
20...	1040	141	220	7.7	21.5	100	--	--	--	--	65	24
SEP												
10...	1215	99	340	7.1	22.0	--	--	--	--	--	--	--
18...	1115	28	540	8.3	21.0	--	--	--	--	--	--	--
23...	1210	89	277	7.6	21.0	--	8.3	1.4	--	--	79	25
OCT												
21...	1335	11	860	8.4	12.5	--	11.2	.15	K380	K89	140	0
23...	1135	10	825	8.3	12.0	--	--	--	--	--	--	--
DEC												
02...	1445	43	700	7.3	7.5	--	--	--	--	--	--	--
JAN , 1981												
06...	1140	35	390	7.6	.5	--	14.6	.92	480	310	98	11
14...	1545	33	600	8.0	.5	--	--	--	--	--	--	--
FEB												
19...	1005	262	240	7.6	9.0	--	--	--	--	--	--	--
19...	1635	255	188	7.4	10.0	--	11.0	.85	4600	2000	60	--
26...	1020	199	200	6.6	5.5	--	--	--	--	--	--	--
MAR												
18...	1250	89	250	7.8	6.0	--	--	--	--	--	--	--
APR												
13...	0930	157	202	7.5	15.5	--	8.9	.98	2800	700	56	21
20...	1040	503	135	7.4	11.0	--	--	--	--	--	--	--
21...	1555	369	190	6.3	9.5	--	--	--	--	--	--	--
MAY												
19...	1215	116	270	7.6	15.0	--	--	--	--	--	--	--
JUN												
09...	1530	283	244	7.4	19.0	--	9.2	.86	K6300	980	82	50
19...	1045	57	430	7.5	21.5	--	--	--	--	--	--	--
JUL												
21...	1630	26	540	8.1	26.0	--	--	--	--	--	120	4
AUG												
13...	1830	14	675	7.5	24.5	--	--	--	--	--	140	25
SEP												
22...	1215	9.3	800	8.3	17.5	--	--	--	--	--	150	0

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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03213800 PIGEON CREEK NEAR LENORE, WV--Continued

DATE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FER , 1980											
26...	--	13	6.2	20	42	1.1	22	1.8	34	45	16
MAR											
26...	.0	12	6.1	12	--	.7	--	--	33	40	4.6
APR											
23...	--	18	7.9	27	42	1.3	--	2.6	56	68	6.3
MAY											
20...	--	25	10	62	56	2.7	--	3.3	100	110	16
JUN											
18...	--	32	13	110	63	4.1	--	5.4	160	190	15
JUL											
16...	--	28	9.8	60	53	2.5	--	4.4	120	110	14
AUG											
08...	--	27	9.5	55	52	2.3	--	4.3	110	99	11
20...	.0	16	6.0	16	--	.9	--	--	41	49	5.2
SEP											
23...	--	20	7.0	23	38	1.1	--	3.5	54	60	9.0
OCT											
21...	--	34	13	120	64	4.4	--	6.0	190	190	19
JAN , 1981											
06...	--	24	9.3	49	51	2.2	--	3.3	92	96	12
FER											
19...	--	15	5.5	14	--	.8	--	--	29	39	11
APR											
13...	--	13	5.8	17	39	1.0	--	1.3	38	42	5.1
JUN											
09...	--	19	8.3	18	32	.9	--	2.8	38	65	7.3
JUL											
21...	--	30	12	64	52	2.5	--	4.4	124	110	11
AUG											
13...	--	35	13	84	--	3.3	--	--	115	160	13
SEP											
22...	--	37	14	140	--	5.4	--	--	163	180	18

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS. (MG/L AS N)
FER , 1980											
26...	.1	7.7	133	137	75.4	--	--	.49	.030	.10	.13
MAR											
26...	--	--	231	--	224	--	--	--	--	--	--
APR											
23...	.1	7.1	173	170	49.5	--	--	.30	.050	.12	.17
MAY											
20...	.2	7.9	301	299	32.5	--	--	1.0	.000	.58	.58
JUN											
18...	.3	5.5	482	469	18.2	--	--	.33	.000	.22	.22
JUL											
16...	.2	7.7	320	308	24.2	--	--	.46	.000	.23	.23
AUG											
08...	.2	6.1	298	280	20.9	--	--	.42	.050	.28	.33
20...	--	8.9	142	--	54.1	--	--	--	--	--	--
SEP											
23...	.2	7.5	171	166	41.1	--	--	.76	.020	.57	.59
OCT											
21...	.3	2.3	510	499	15.1	--	--	.01	.030	.11	.14
JAN , 1981											
06...	.1	8.4	264	255	24.9	--	--	.66	.000	.26	.26
FER											
19...	<.1	8.4	110	--	75.7	--	--	.51	.080	.26	.34
APR											
13...	<.1	7.9	115	113	48.7	--	--	.44	.050	.49	.54
JUN											
09...	<.1	9.0	135	149	103	--	--	.61	.060	.19	.25
JUL											
21...	.2	5.8	350	310	24.6	--	.04	--	--	--	--
AUG											
13...	--	5.7	431	381	16.3	<.010	--	.19	.020	--	--
SEP											
22...	--	2.2	498	491	12.5	<.010	--	.16	.050	--	--

BIG SANDY RIVER BASIN

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

WATER QUALITY DATA

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDED RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
FEB , 1980											
26...	--	.000	--	110	90	20	--	--	--	--	--
APR 23...	--	.000	--	--	--	100	--	--	--	--	--
MAY 20...	--	.020	--	--	--	100	--	--	--	--	--
JUN 18...	--	.020	--	70	30	40	--	--	--	--	--
JUL 16...	--	.020	--	--	--	0	--	--	--	--	--
AUG 08...	--	.010	--	--	--	200	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	40	<0
SEP 23...	--	.020	--	--	--	100	--	--	--	--	--
OCT 21...	--	.010	--	90	30	60	--	--	--	--	--
JAN , 1981											
06...	--	.000	--	--	--	100	--	--	--	--	--
FEB 19...	--	.040	--	830	790	40	--	--	--	--	--
APR 13...	--	.020	--	--	--	200	--	--	--	--	--
JUN 09...	--	.040	--	220	170	50	--	--	--	--	--
JUL 21...	<.010	--	--	--	--	--	2	1	100	--	--
AUG 13...	--	--	<.010	--	--	--	--	--	--	70	1
SEP 22...	--	--	<.010	--	--	--	--	--	--	70	<1

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
FEB , 1980											
26...	0	0	0	--	<10	--	0	--	--	--	--
APR 23...	--	--	--	--	--	--	--	--	--	--	--
MAY 20...	--	--	--	--	--	--	--	--	--	--	--
JUN 18...	0	0	0	--	10	--	0	--	--	--	--
JUL 16...	--	--	--	--	--	--	--	--	--	--	--
AUG 08...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	2	--	--	--	--	<3	--	--	<10
SEP 23...	--	--	--	--	--	--	--	--	--	--	--
OCT 21...	0	0	3	--	30	--	0	--	--	--	--
JAN , 1981											
06...	--	--	--	--	--	--	--	--	--	--	--
FEB 19...	0	--	<1	--	10	--	0	--	--	--	--
APR 13...	--	--	--	--	--	--	--	--	--	--	--
JUN 09...	1	0	2	--	10	--	0	--	--	--	--
JUL 21...	1	--	--	<1	20	<1	--	--	<10	4	--
AUG 13...	--	--	1	--	--	--	--	3	--	--	10
SEP 22...	--	--	<1	--	--	--	--	<3	--	--	<10

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

WATER QUALITY DATA

DATE	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
FER , 1980											
26...	--	510	440	70	--	0	0	0	--	--	80
MAR											
26...	--	450	420	30	--	--	--	--	--	--	60
APR											
23...	--	--	--	30	--	--	--	--	--	--	--
MAY											
20...	--	--	--	50	--	--	--	--	--	--	--
JUN											
18...	--	300	260	40	--	0	0	0	--	--	80
JUL											
16...	--	--	--	20	--	--	--	--	--	--	--
AUG											
08...	--	--	--	40	--	--	--	--	--	--	--
20...	--	3100	3000	57	--	--	--	11	--	8	120
SEP											
23...	--	--	--	100	--	--	--	--	--	--	--
OCT											
21...	--	430	390	40	--	1	1	0	--	--	80
JAN , 1981											
06...	--	--	--	10	--	--	--	--	--	--	--
FEB											
19...	--	1700	1700	30	--	5	5	0	--	--	100
APR											
13...	--	--	--	60	--	--	--	--	--	--	--
JUN											
09...	--	740	720	20	--	3	3	0	--	--	80
JUL											
21...	3	430	340	90	200	<1	--	--	<10	--	40
AUG											
13...	--	420	390	30	--	--	--	10	--	26	60
SEP											
22...	--	860	820	44	--	--	--	<10	--	41	80

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)
FER , 1980											
26...	10	70	--	<.1	<.0	<.1	--	--	--	--	--
MAR											
26...	0	60	--	--	--	--	--	--	--	--	--
APR											
23...	--	100	--	--	--	--	--	--	--	--	--
MAY											
20...	--	120	--	--	--	--	--	--	--	--	--
JUN											
18...	0	80	--	<.1	--	<.1	--	--	--	--	--
JUL											
16...	--	70	--	--	--	--	--	--	--	--	--
AUG											
08...	--	60	--	--	--	--	--	--	--	--	--
20...	70	52	--	--	--	--	--	<10	--	--	--
SEP											
23...	--	220	--	--	--	--	--	--	--	--	--
OCT											
21...	0	80	--	<.1	--	<.1	--	--	--	--	--
JAN , 1981											
06...	--	170	--	--	--	--	--	--	--	--	--
FEB											
19...	50	50	--	.1	--	<.1	--	--	--	--	--
APR											
13...	--	50	--	--	--	--	--	--	--	--	--
JUN											
09...	0	80	--	<.1	--	<.1	--	--	--	--	--
JUL											
21...	0	40	51	<.1	--	--	<.01	--	1	<1	<1
AUG											
13...	20	38	--	--	--	--	--	10	--	--	--
SEP											
22...	40	39	--	--	--	--	--	<10	--	--	--

BIG SANDY RIVER BASIN

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

WATER QUALITY DATA

DATE	STRONTIUM, DIS- SOLVED (UG/L AS SR)	VANADIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOVERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOVER- ED FROM BOT- TOM MATERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATERIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDIMENT, SUS- PENDED (MG/L)	SEDIMENT, DIS- CHARGE, SUS- PENDED (T/DAY)
FEB , 1980											
05...	--	--	--	--	--	--	--	--	--	6	1.1
26...	--	--	10	10	0	--	--	--	--	--	--
MAR											
26...	--	--	--	--	--	--	--	6.00	--	28	27
JUN											
18...	--	--	30	30	0	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	64	3.5
20...	180	11	--	--	6	--	5.0	--	--	212	81
OCT											
21...	--	--	30	30	0	--	--	--	--	--	--
FEB , 1981											
19...	--	--	30	20	6	--	--	--	--	--	--
JUN											
09...	--	--	30	20	10	--	--	--	--	--	--
JUL											
21...	--	--	160	--	--	9	--	--	<.01	--	--
AUG											
13...	730	6.0	--	--	4	--	--	--	--	--	--
SEP											
22...	810	<6.0	--	--	13	--	--	--	--	--	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	581	735	377	341	326	180	289	328	155	415	636	870
2	600	759	638	328	167	170	275	345	152	515	669	888
3	589	750	325	341	204	190	274	370	153	590	689	825
4	628	755	343	398	205	240	280	390	190	585	700	489
5	640	765	341	406	236	167	242	388	136	300	710	590
6	653	762	354	383	247	150	189	418	197	150	570	740
7	680	770	374	---	278	175	194	430	128	215	600	792
8	698	780	396	---	325	203	214	458	190	270	618	1200
9	700	770	517	---	288	225	224	460	260	320	581	688
10	701	790	297	---	297	246	229	465	350	380	640	738
11	715	778	294	---	278	265	189	545	247	420	662	835
12	730	785	303	---	224	280	189	475	285	475	710	813
13	749	785	311	---	222	290	204	495	350	500	665	835
14	752	790	---	---	225	300	309	518	210	400	708	823
15	754	795	364	---	238	320	218	400	270	255	730	723
16	759	800	374	---	247	360	265	405	300	315	748	525
17	756	940	387	---	278	280	265	480	345	345	708	564
18	755	560	415	---	175	259	147	520	355	410	740	672
19	772	410	438	---	220	284	170	345	360	444	771	705
20	772	528	442	308	175	319	150	186	415	475	771	747
21	780	565	605	298	175	305	165	205	425	480	813	778
22	784	611	503	308	196	319	186	240	455	350	800	800
23	783	663	509	252	172	324	213	281	360	385	810	815
24	783	340	792	242	162	244	198	327	208	490	825	822
25	770	215	382	254	180	211	213	379	370	530	840	840
26	518	270	362	262	212	218	211	390	560	560	851	845
27	609	329	358	267	230	228	258	380	610	585	840	835
28	779	330	374	270	255	244	277	370	620	520	861	840
29	706	336	385	284	---	269	300	234	350	513	861	852
30	690	347	381	310	---	271	313	232	560	548	860	845
31	730	---	349	343	---	269	---	195	---	609	865	---
MEAN	707	627			230	252	228	376	319	431	737	778

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	3.0	2.0	13.0	13.0	25.0	25.0	27.0	23.0
2				---	2.0	2.0	15.0	14.0	24.0	26.0	25.0	24.0
3				---	2.0	3.0	15.0	16.0	25.0	24.0	27.0	22.0
4				---	1.0	2.0	---	16.0	25.0	23.0	25.0	23.0
5				---	1.0	5.0	10.0	19.0	22.0	25.0	25.0	26.0
6				---	1.0	5.0	12.0	20.0	24.0	26.0	27.0	27.0
7				---	1.0	9.0	12.0	17.5	23.0	27.0	26.0	25.0
8				---	1.0	10.0	15.0	16.0	25.0	26.0	26.0	24.0
9				---	3.0	9.0	12.0	12.0	19.0	23.0	26.0	25.0
10				---	2.0	9.0	12.0	16.0	21.0	22.0	27.0	23.0
11				---	1.0	7.0	11.0	17.0	18.5	25.0	29.0	23.0
12				---	3.0	3.0	15.0	19.0	17.0	25.0	25.0	23.0
13				5.0	3.0	8.0	10.0	22.0	23.0	21.0	26.0	25.0
14				6.0	5.0	6.0	12.0	18.0	22.0	27.0	27.0	26.0
15				7.0	6.0	9.0	5.0	---	20.0	27.0	25.0	23.0
16				7.0	3.0	8.0	10.0	17.0	21.0	27.5	24.0	25.0
17				9.0	1.0	11.0	10.0	19.0	18.0	28.0	26.0	22.0
18				9.0	3.0	9.0	15.0	17.0	22.0	27.0	22.5	22.0
19				7.0	3.0	10.0	17.0	20.0	25.0	29.0	22.0	22.0
20				6.0	4.0	8.0	16.0	19.0	23.0	30.0	23.0	23.0
21				7.0	7.0	8.0	15.0	18.0	17.0	30.0	22.0	22.0
22				7.0	10.0	9.0	16.0	23.0	21.0	25.0	20.0	24.0
23				5.0	9.0	8.0	20.0	22.0	25.0	26.0	23.0	21.0
24				2.0	8.0	11.0	20.0	20.0	22.0	25.0	22.0	21.0
25				7.0	7.0	8.0	16.0	19.0	21.0	27.0	25.0	21.0
26				6.0	6.0	8.0	12.0	23.0	25.0	27.0	25.0	19.0
27				6.0	5.0	11.0	12.0	22.0	25.0	25.0	24.0	18.0
28				4.0	4.0	9.0	11.0	23.0	25.0	24.0	25.0	16.0
29				4.0	5.0	13.0	10.0	22.0	24.0	24.0	27.0	16.0
30				5.0	---	14.0	11.0	22.0	22.0	25.0	22.0	18.0
31				4.0	---	11.0	---	24.0	---	25.0	24.0	---
MEAN					4.0	8.0			22.5	25.5	25.0	22.5

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	10.0	6.0	4.0	4.0	8.0	15.0	17.0	15.0	21.0	25.0	23.0
2	18.0	10.0	8.0	3.0	2.0	7.0	5.0	15.0	17.0	21.0	24.0	25.0
3	16.0	10.0	5.0	3.0	1.0	7.0	13.0	14.0	16.0	22.0	26.0	25.0
4	14.0	15.0	6.0	1.0	1.0	5.0	15.0	19.0	17.0	22.0	27.0	23.0
5	13.0	12.0	5.0	1.0	1.0	7.0	14.0	20.0	16.0	23.0	28.0	26.0
6	14.0	10.0	8.0	1.0	1.0	7.0	9.0	17.0	17.0	19.5	24.0	24.0
7	15.0	12.0	12.0	---	3.0	6.0	10.0	15.0	15.0	23.0	24.0	25.0
8	17.0	15.0	10.0	---	3.0	5.0	16.0	19.0	14.0	22.0	24.0	23.0
9	19.0	14.0	12.0	---	3.0	6.0	15.0	20.0	18.0	25.0	23.0	19.0
10	17.0	12.0	9.0	---	4.0	7.0	15.0	17.0	21.0	26.0	26.0	20.0
11	18.0	8.0	5.0	---	1.0	7.0	14.0	17.0	20.0	24.0	25.0	22.0
12	14.0	8.0	4.0	---	1.0	10.0	18.0	13.0	20.0	25.0	23.0	23.0
13	13.0	5.0	6.0	---	3.0	8.0	21.0	18.0	21.0	27.0	23.0	23.0
14	14.0	8.0	---	---	4.0	8.0	17.0	17.0	18.0	26.0	24.0	24.0
15	14.0	10.0	5.0	---	5.0	7.0	12.0	15.0	24.0	25.0	25.0	22.0
16	15.0	8.0	6.0	---	6.0	6.0	14.0	13.0	20.0	24.0	24.0	21.0
17	15.0	7.0	5.5	---	8.0	7.0	13.5	17.0	23.0	22.0	23.0	18.0
18	17.0	7.0	3.0	---	7.0	6.0	13.0	17.0	22.0	26.0	20.0	16.0
19	19.0	11.0	5.0	---	9.5	4.0	15.0	14.5	24.0	25.0	23.0	15.0
20	14.0	6.0	1.0	1.0	8.0	2.0	11.0	12.0	22.0	26.0	20.0	14.0
21	13.0	4.5	1.0	2.0	9.0	8.0	5.0	17.0	23.0	24.0	23.0	19.0
22	19.0	6.0	1.0	3.0	9.0	5.0	14.0	14.0	23.0	22.0	23.0	19.0
23	15.0	6.0	2.0	3.0	9.0	5.0	15.0	16.0	24.0	22.0	20.0	17.0
24	15.0	8.5	2.0	3.0	6.0	9.0	12.0	19.0	24.0	26.0	24.0	12.0
25	11.0	8.0	1.0	5.0	8.0	10.0	11.0	20.0	25.0	27.0	23.0	18.0
26	11.0	3.0	1.0	7.0	9.0	9.0	6.0	22.0	25.0	27.0	24.0	18.0
27	13.0	8.0	2.0	8.0	10.0	8.0	20.0	20.0	25.0	28.0	22.0	19.0
28	13.0	7.0	1.0	5.0	9.0	15.0	20.0	18.0	23.0	25.0	25.0	19.0
29	11.0	5.0	3.0	4.0	---	15.0	18.0	17.0	25.0	22.0	25.0	17.0
30	8.0	7.0	3.0	3.0	---	13.0	15.0	16.0	22.0	23.0	24.0	16.0
31	11.0	---	3.0	2.0	---	18.0	---	16.0	---	25.0	25.0	---
MEAN	14.5	8.5			5.0	8.0	14.0	17.0	20.5	24.0	24.0	20.0

BIG SANDY RIVER BASIN

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1									10	3.6	34	26
2									9	2.8	30	19
3									12	3.7	23	12
4									8	2.4	40	22
5									11	2.9	47	36
6									11	2.7	28	20
7									11	2.5	22	13
8									9	1.9	20	10
9									8	1.5	15	6.0
10									14	2.2	34	14
11									20	3.2	80	52
12									18	3.3	21	13
13									14	3.2	23	12
14									12	2.8	33	16
15									61	59	8	3.1
16									276	906	12	4.0
17									55	72	7	2.1
18									20	16	3	.85
19									13	7.3	4	1.1
20									11	5.0	7	1.7
21									45	27	6	1.4
22									48	34	2	.42
23									67	55	131	44
24									480	2290	514	543
25									192	694	66	83
26									118	273	20	16
27									47	64	12	7.3
28									36	32	8	3.8
29									---	---	7	2.8
30									---	---	5	1.8
31									---	---	7	2.2
TOTAL									---	4573.0	---	989.57
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	94	56	6	1.5	42	20	53	19	12	4.4	13	10
2	154	152	6	1.4	23	11	47	13	6	1.8	80	17
3	459	2840	10	2.2	147	136	153	33	3	.70	36	5.2
4	200	532	67	16	46	49	105	26	2	.37	32	3.8
5	73	102	37	14	27	18	77	27	5	.74	27	3.1
6	30	28	6	2.3	23	9.6	62	28	7	.91	11	1.3
7	23	15	5	1.8	20	5.6	53	16	3	.38	7	.74
8	21	11	7	2.2	18	3.8	15	3.6	13	1.5	8	.76
9	33	21	7	1.9	35	8.1	25	5.4	5	.54	8	.65
10	10	6.7	4	.98	99	23	12	5.4	3	.28	7	.53
11	11	6.7	2	.43	68	25	3	1.1	4	.36	6	.42
12	6	3.2	3	.57	11	2.3	7	2.1	40	5.6	4	.26
13	7	3.2	90	26	8	1.3	15	4.7	12	1.6	5	.30
14	26	12	15	3.1	8	1.0	43	13	4	.42	32	2.4
15	4	1.5	7	1.2	9	1.0	1510	6160	5	.43	7	.66
16	3	1.0	7	1.0	7	.66	161	235	12	.97	6	.39
17	7	2.2	9	1.1	35	5.2	23	16	13	.98	8	.48
18	3	.85	7	.81	14	1.7	11	5.2	12	.87	5	.27
19	1	.26	5	.53	347	481	8	2.8	103	11	5	.26
20	2	.49	2	.19	570	673	7	2.1	87	17	7	.36
21	1	.23	6	.53	138	164	6	1.7	131	24	200	43
22	3	.62	9	.73	2140	22500	5	1.2	841	595	415	464
23	3	.59	76	30	788	6580	5	1.1	1270	1120	42	28
24	4	.76	185	116	107	163	13	2.7	49	16	20	8.2
25	5	.88	119	87	6	5.1	18	3.3	35	7.9	15	4.0
26	14	2.9	199	165	3	1.6	2120	7190	242	78	6	1.2
27	44	13	34	22	5	1.9	1100	2280	440	568	5	.82
28	16	5.0	359	1420	6	1.7	241	603	104	55	8	1.3
29	4	1.1	93	108	6	1.5	130	151	33	11	10	1.7
30	4	1.1	48	27	191	39	67	53	7	1.6	10	1.5
31	---	---	81	37	---	---	33	17	3	.55	---	---
TOTAL	---	3821.28	---	2094.47	---	30934.06	---	16922.4	---	2527.90	---	602.60

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	41	2.7	5	.43			---	---	6	1.6	9	3.2
2	34	4.5	297	418			---	---	7	1.6	10	3.6
3	21	2.8	122	136			---	---	9	1.9	10	3.3
4	11	1.2	32	21			---	---	10	1.9	7	2.3
5	7	.81	21	9.4			---	---	8	1.4	265	637
6	5	.53	13	4.7			---	---	4	.69	265	693
7	5	.51	7	2.0			---	---	7	1.2	83	100
8	4	.39	13	3.0			---	---	5	.81	32	30
9	14	1.4	19	4.6			---	---	3	.47	17	12
10	136	172	190	160			---	---	3	.46	12	7.3
11	36	11	57	53			---	---	2	.30	12	6.2
12	31	8.6	35	29			---	---	3	.45	5	2.2
13	124	76	24	18		3	1.1	5	.76	20	8.5	
14	14	9.5	16	9.3		6	2.7	5	.82	44	28	
15	17	7.7	7	3.2		2	.89	13	3.1	11	6.5	
16	16	5.2	---	---		1	.43	489	1020	8	4.3	
17	18	4.2	---	---		3	1.2	109	141	24	14	
18	12	2.4	---	---		151	161	23	18	240	330	
19	8	1.3	---	---		123	161	13	7.7	57	68	
20	8	1.0	---	---		28	25	16	8.9	20	17	
21	9	1.1	---	---		13	8.5	27	18	127	142	
22	7	.79	---	---		40	29	330	726	52	62	
23	5	.53	---	---		127	131	90	113	22	20	
24	6	.60	---	---		36	34	35	30	37	29	
25	6	.58	---	---		20	15	13	9.0	63	60	
26	8	.78	---	---		9	5.1	12	7.2	30	26	
27	7	.55	---	---		13	6.3	7	3.5	18	13	
28	25	2.5	---	---		4	1.6	8	4.0	33	23	
29	24	3.0	---	---		5	1.8	7	2.9	17	13	
30	7	.70	---	---		5	1.6	---	---	13	9.0	
31	3	.26	---	---		7	2.1	---	---	22	14	
TOTAL	---	325.13						---	2126.66	---	2387.4	
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	17	9.2	12	17	10	.84	7	.23	37	2.2	63	7.1
2	10	5.0	10	4.3	6	.44	5	.16	32	1.6	27	3.0
3	11	5.2	9	3.4	5	.34	8	.32	23	.99	195	36
4	31	16	22	7.3	4	.25	15	.69	47	2.2	43	5.3
5	12	5.7	13	3.8	2	.12	85	6.2	83	4.7	16	1.8
6	8	3.5	9	2.4	2	.11	72	4.1	215	14	13	1.2
7	8	3.2	7	1.6	4	.21	20	.81	214	27	13	1.2
8	37	21	7	1.5	3	.15	18	.68	112	9.1	11	.95
9	302	359	7	1.3	4	.19	1080	260	31	1.7	75	6.3
10	53	43	8	1.4	2	.09	1480	903	15	.73	416	127
11	16	9.7	8	1.3	3	.15	515	252	25	1.1	177	26
12	13	6.8	9	1.3	5	.22	300	37	1050	130	33	3.9
13	26	13	7	.96	5	.22	1820	534	95	4.1	11	1.1
14	117	105	36	5.7	7	.26	285	44	57	2.8	10	.89
15	76	79	9	1.1	12	.45	92	8.9	69	3.0	10	.84
16	33	28	7	.81	29	1.3	63	4.8	56	2.4	8	.65
17	18	13	13	1.4	15	.65	45	3.0	45	1.8	7	.55
18	14	8.4	72	12	6	.23	36	2.1	1390	3060	7	.53
19	22	11	29	3.5	6	.23	25	1.3	993	1280	11	.77
20	14	5.9	73	18	8	.28	17	.87	172	66	11	.74
21	8	3.0	138	29	9	.32	12	.58	70	15	81	6.8
22	7	2.2	32	4.8	8	.28	12	.58	825	1940	110	26
23	7	2.0	6	.79	7	.25	185	21	143	68	65	18
24	8	2.1	6	.70	6	.21	107	7.8	38	9.8	18	3.0
25	8	1.9	9	1.0	9	.32	77	4.4	17	3.1	32	4.8
26	10	2.1	6	.63	8	.28	46	2.4	12	1.8	22	2.7
27	82	34	3	.27	7	.25	55	3.9	11	1.4	19	1.9
28	41	24	4	.35	8	.26	212	24	10	1.1	16	1.3
29	10	4.9	6	.47	13	.42	108	9.6	8	.82	11	.77
30	16	7.8	12	.87	10	.32	64	4.3	352	80	7	.45
31	---	---	12	1.0	---	---	46	2.6	190	26	---	---
TOTAL	---	834.6	---	129.95	---	9.64	---	2145.32	---	6762.44	---	291.54

03213800 PIGEON CREEK NEAR LENORE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH										
1	13	.84	6	.16	3	.38	4	.57	16	2.0	132	103									
2	8	.52	11	.27	31	3.8	3	.44	868	1580	54	42									
3	8	.52	7	.18	93	14	2	.28	268	240	40	23									
4	5	.31	8	.20	9	1.2	1	.12	127	69	25	13									
5	5	.28	8	.20	2	.26	10	1.0	45	17	153	264									
6	4	.19	7	.19	2	.25	20	1.9	17	5.0	197	287									
7	3	.12	6	.15	2	.24	10	.89	16	4.0	65	63									
8	4	.14	8	.20	6	.65	5	.42	124	33	25	17									
9	4	.13	8	.20	29	3.7	3	.24	18	4.0	18	8.8									
10	8	.26	5	.13	26	4.9	2	.15	15	3.5	10	4.0									
11	9	.27	5	.13	7	1.3	1	.17	93	18	8	2.6									
12	6	.18	5	.11	4	.67	1	.07	48	17	6	1.7									
13	6	.16	5	.11	3	.47	1	.07	27	12	4	.98									
14	4	.11	4	.09	4	.56	1	.09	17	5.7	4	.88									
15	6	.15	4	.09	4	.51	1	.08	9	2.8	5	.99									
16	5	.12	5	.11	6	.73	2	.16	12	3.4	23	5.5									
17	4	.04	15	.65	13	1.5	2	.14	86	48	7	1.7									
18	5	.13	66	11	4	.40	4	.28	150	131	5	1.2									
19	5	.14	16	1.7	4	.38	6	.47	72	51	6	1.4									
20	4	.10	6	.53	7	.53	10	.81	117	96	6	1.3									
21	4	.12	4	.31	16	1.1	13	1.5	40	29	4	.81									
22	3	.04	5	.37	7	.48	15	2.4	22	12	5	.99									
23	5	.13	4	.28	5	.40	16	2.9	145	176	14	3.3									
24	4	.09	480	381	33	3.8	15	2.8	112	116	23	7.6									
25	30	3.5	72	31	26	2.6	10	1.8	42	30	19	7.3									
26	12	.68	20	4.4	21	2.0	10	1.7	26	13	12	4.3									
27	3	.12	13	2.5	16	1.6	9	1.4	19	7.9	8	2.6									
28	3	.11	7	1.2	7	.66	7	1.1	15	5.7	7	2.1									
29	3	.10	6	.90	5	.47	5	.69	---	---	7	1.8									
30	3	.09	4	.57	31	4.3	6	.73	---	---	7	1.8									
31	5	.15	---	---	6	.83	6	.60	---	---	4	.94									
TOTAL	---	9.93	---	438.93	---	54.67	---	25.87	---	2732.0	---	876.59									
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER											
1	7	1.6	2	.39	269	332	374	78	7	.38	7	.18									
2	10	2.3	1	.17	730	1380	25	2.2	3	.15	11	.39									
3	6	1.4	1	.15	270	406	7	.51	4	.19	200	20									
4	8	1.8	1	.14	500	1110	5	.37	4	.18	345	46									
5	116	46	1	.12	460	1210	61	21	7	.30	65	2.9									
6	43	22	1	.12	1270	14400	1310	3100	163	16	27	.95									
7	19	8.8	2	.22	1090	7950	98	77	19	1.1	26	.82									
8	14	5.4	2	.21	43	65	17	5.7	37	2.6	84	4.1									
9	43	16	8	.75	42	35	7	1.5	10	.56	57	2.6									
10	101	51	8	.65	84	78	2	.33	7	.33	17	.51									
11	67	38	7	.57	76	57	1	.14	7	.29	12	.32									
12	39	21	4	.34	32	17	3	.35	12	.51	13	.33									
13	22	9.4	5	.39	111	68	4	.38	7	.27	12	.28									
14	51	19	15	1.1	86	62	150	59	5	.18	21	.60									
15	17	5.1	207	28	30	13	74	17	6	.21	101	9.2									
16	7	1.8	74	6.8	16	4.8	15	2.4	7	.27	62	5.2									
17	431	545	17	1.3	10	2.5	15	1.9	5	.21	22	1.1									
18	222	320	97	10	4	.76	14	1.4	8	.30	11	.43									
19	66	6	361	162	6	.96	8	.73	8	.27	15	.45									
20	209	228	252	189	7	1.0	6	.49	8	.27	16	.43									
21	66	69	60	26	7	.97	47	4.2	5	.17	22	.55									
22	43	32	23	6.4	6	.75	282	47	5	.17	13	.31									
23	86	67	12	2.4	4	.44	40	3.2	8	.25	18	.42									
24	63	46	8	1.3	4	.39	20	1.5	7	.22	12	.24									
25	17	9.4	11	1.5	7	.64	13	.86	7	.21	5	.10									
26	15	6.3	36	6.0	13	1.2	13	.78	7	.21	4	.08									
27	12	4.1	26	3.4	3	.24	28	1.6	11	.30	13	.28									
28	9	2.4	92	21	2	.14	130	12	9	.24	15	.33									
29	7	1.7	75	25	2	.14	38	3.2	7	.19	13	.31									
30	3	.66	94	45	6	.41	12	.77	7	.19	19	.39									
31	---	---	740	1050	---	---	7	.39	6	.17	---	---									
TOTAL	---	1642.06	---	1590.42	---	27198.34	---	3445.90	---	26.89	---	99.80									
TOTAL LOAD FOR YEAR: 38141.40 TONS.																					

BIG SANDY RIVER BASIN

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03214000 TUG FORK NEAR KERMIT, WV

LOCATION.--Lat 37°49'05", long 82°23'20", Mingo County, Hydrologic Unit 05070201, on right bank 2.0 mi (3.2 km) upstream from Wolf Creek, 3.0 mi (4.8 km) upstream from Kermit, 3.0 mi (4.8 km) downstream from Pigeon Creek, and at mile 37.7 (60.7 km).

DRAINAGE AREA.--1,188 mi² (3,077 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1934 to current year.

REVISED RECORDS.--WSP 953: 1934-41. WSP 1505: 1955.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft (177.339 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for period of no gage-height record, Oct. 23 to Nov. 25, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--47 years, 1,424 ft³/s (40.33 m³/s), 16.28 in/yr (414 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 104,000 ft³/s (2,950 m³/s) Apr. 6, 1977, gage height, 52.91 ft (16.127 m), from floodmarks, from rating curve extended above 29,000 ft³/s (820 m³/s) on basis of slope-area measurements at gage heights 45.65 ft (13.914 m) and 52.91 ft (16.127 m); minimum, 23 ft³/s (0.65 m³/s) Sept. 14, 1939, gage height, 1.13 ft (0.344 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,700 ft³/s (898 m³/s) June 7, gage height, 35.42 ft (10.796 m), no other peak above base of 10,000 ft³/s (280 m³/s); minimum, 147 ft³/s (4.16 m³/s) Oct. 22, gage height 1.59 ft (0.485 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	243	190	640	504	393	1880	1270	1160	4380	708	355	197
2	240	180	580	512	2510	2240	1360	1040	6350	1060	327	211
3	240	170	616	492	3470	1900	1420	932	5490	764	306	211
4	240	160	568	439	2200	1610	1350	852	6380	652	313	443
5	233	160	524	250	1410	3030	1560	792	6940	624	327	341
6	233	160	484	310	1170	5060	2730	760	13100	2140	397	355
7	212	170	443	380	1010	3950	2590	728	27200	1970	362	292
8	198	170	400	360	940	2860	2120	672	9240	1400	464	476
9	187	160	428	360	856	2160	1860	616	4050	1200	684	379
10	187	150	580	330	764	1730	1910	580	3230	1000	568	285
11	184	160	600	240	944	1470	2920	580	2580	900	400	239
12	174	160	564	190	1260	1290	2890	656	2150	760	351	218
13	168	160	516	230	1470	1140	2340	604	2380	660	398	204
14	165	160	456	250	1440	1030	1970	552	2130	600	464	197
15	159	150	407	280	1260	932	1820	732	1630	850	344	285
16	156	160	404	290	1110	964	1610	708	1350	1300	323	351
17	156	230	379	230	1420	1260	2200	572	1250	840	306	572
18	156	350	341	200	3120	1460	4810	700	1110	732	292	488
19	153	520	320	190	3170	1420	4700	2220	988	584	268	330
20	159	500	285	200	2840	1290	4750	6780	928	508	239	264
21	156	410	225	285	3150	1160	7690	3810	872	492	225	229
22	150	360	201	428	2640	1060	4800	2330	816	588	229	211
23	150	330	246	696	2590	1190	3340	1650	776	568	229	197
24	150	800	295	844	3260	1830	2840	1280	720	536	218	187
25	190	2200	334	772	2860	2640	2480	1060	660	418	211	174
26	250	1440	288	688	2200	2920	2060	956	688	372	201	165
27	300	976	320	636	1720	2490	1750	932	860	355	197	162
28	300	844	430	600	1450	2050	1520	2460	648	379	190	159
29	270	780	420	548	---	1670	1370	4390	560	464	194	153
30	240	740	443	484	---	1510	1260	3320	516	620	190	153
31	210	---	488	414	---	1410	---	3890	---	443	190	---
TOTAL	6209	13100	13225	12632	52627	58606	77290	48314	109972	24487	9762	8128
MEAN	200	437	427	407	1880	1891	2576	1559	3666	790	315	271
MAX	300	2200	640	844	3470	5060	7690	6780	27200	2140	684	572
MIN	150	150	201	190	393	932	1260	552	516	355	190	153
CFSM	.17	.37	.36	.34	1.58	1.59	2.17	1.31	3.09	.67	.27	.23
IN.	.19	.41	.41	.40	1.65	1.84	2.42	1.51	3.44	.77	.31	.25
CAL YR 1980	TOTAL	492483	MEAN	1346	MAX	8780	MIN	150	CFSM	1.13	IN	15.42
WTR YR 1981	TOTAL	434352	MEAN	1190	MAX	27200	MIN	150	CFSM	1.00	IN	13.60

BIG SANDY RIVER BASIN

03214000 TUG FORK NEAR KERMIT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
21...	1510	156	980	8.2	15.5	10.4	.37	K170	K17	160	0
22...	1400	146	950	8.1	15.5	--	--	--	--	--	--
DEC											
03...	1000	580	425	7.1	5.5	--	--	--	--	--	--
JAN											
06...	1305	355	494	7.8	.5	13.4	.63	K92	120	120	14
22...	0950	414	600	7.7	.5	--	--	--	--	--	--
FEB											
20...	1115	2800	220	7.5	9.0	11.1	.89	2200	1200	91	--
26...	1210	2150	260	6.8	7.5	--	--	--	--	--	--
APR											
16...	1520	1590	277	7.7	16.0	8.7	1.3	3800	420	99	32
22...	1015	4930	200	7.0	12.0	--	--	--	--	--	--
JUN											
09...	1820	3650	298	7.1	20.0	8.6	.93	K6700	9200	100	36
24...	1035	712	660	7.8	24.0	--	--	--	--	--	--
AUG											
13...	1030	369	620	7.8	25.0	--	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT											
21...	38	17	130	62	4.4	4.4	220	190	45	.2	.6
JAN											
06...	30	12	50	46	2.0	2.4	110	110	12	.1	5.2
FEB											
20...	24	7.6	13	--	.6	--	40	50	7.8	<.1	8.2
APR											
16...	23	10	25	35	1.1	2.3	64	68	7.6	.1	7.6
JUN											
09...	25	9.6	15	24	.6	2.2	66	71	4.9	<.1	9.2

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDED RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
21...	552	558	233	.02	.32	.35	.010	90	10	80
JAN										
06...	309	288	296	.42	.21	.21	.010	--	--	100
FEB										
20...	142	--	1070	.62	.20	.27	<.010	860	820	40
APR										
16...	179	184	768	.49	.67	.76	.010	--	--	100
JUN										
09...	172	177	1700	.53	.07	.40	.040	970	950	20

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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03214000 TUG FORK NEAR KERMIT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE D RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)
OCT 21...	0	0	0	20	0	370	360	10	0	0
JAN 06...	--	--	--	--	--	--	--	0	--	--
FEB 20...	0	--	<1	<10	0	3100	3100	40	7	5
APR 16...	--	--	--	--	--	--	--	20	--	--
JUN 09...	1	0	1	10	0	6500	6500	10	13	13

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE D RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 21...	1	90	40	50	<.1	--	<.1	20	20	0
JAN 06...	--	--	--	220	--	--	--	--	--	--
FEB 20...	2	140	110	30	.1	.0	.1	30	--	<4
APR 16...	--	--	--	20	--	--	--	--	--	--
JUN 09...	0	250	210	40	<.1	--	<.1	40	30	7

BIG SANDY RIVER BASIN

03214500 TUG FORK AT KERMIT, WV

LOCATION.--Lat 37°50'17", long 82°24'35", Mingo County, Hydrologic Unit 05070201, at city water plant, at Kermit, 0.8 mi (1.3 km) downstream from Wolf Creek, and 3.0 mi (4.8 km) downstream from gaging station near Kermit, and at mile 34.7 (55.8 km).

DRAINAGE AREA.--1,274 mi² (3,300 km²) at water plant; 1,185 mi² (3,069 km²) at gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1946 to September 1977, January to June 1978, January 1979 to current year.

COOPERATION.--Records were furnished by the Kermit Water Works.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 32.0°C July 29, 1949; minimum daily, -0.5°C Dec. 31, 1976, Jan. 1, 2, 8-13, 24, 1977.

EXTREMES FOR CURRENT YEAR.--

Maximum daily, 26.5°C Aug. 9-12; minimum daily, 1.5°C several days in January.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	11.0	6.0	3.5	4.5	6.5	8.0	20.5	20.5	18.5	19.0	23.5
2	20.5	11.0	8.0	3.5	5.0	6.0	8.5	21.0	20.5	18.5	19.5	23.5
3	16.0	10.5	7.0	2.0	5.0	6.0	9.0	17.0	20.5	18.5	20.5	23.5
4	15.5	12.0	6.5	2.0	5.0	5.5	8.5	18.5	20.5	19.0	21.5	23.5
5	15.5	13.0	6.0	1.5	4.5	5.0	8.0	20.0	20.5	19.0	22.0	23.0
6	14.5	9.5	7.0	1.5	4.5	5.0	8.5	13.0	21.0	19.0	24.0	23.0
7	14.0	9.5	9.5	2.0	4.5	5.0	9.0	18.5	21.0	18.5	25.0	23.0
8	14.0	10.5	9.5	2.0	4.0	4.5	10.0	20.5	21.0	18.5	26.0	22.0
9	14.5	11.5	10.0	2.0	4.0	5.5	12.0	20.0	21.0	18.5	26.5	22.0
10	14.5	13.0	9.5	1.5	4.0	6.5	13.5	15.5	21.0	18.5	26.5	22.0
11	14.0	13.0	9.0	1.5	4.0	6.5	14.5	15.5	21.5	18.5	26.5	21.5
12	14.0	9.0	8.5	2.0	4.5	6.5	14.5	17.0	21.5	19.0	26.5	21.5
13	14.0	6.5	8.5	2.0	4.5	6.5	14.5	17.0	21.5	19.0	26.0	21.5
14	14.0	7.0	8.0	2.0	4.5	6.0	14.5	18.0	21.5	18.5	26.0	21.0
15	14.0	8.0	5.5	1.5	5.0	6.0	14.0	18.0	21.5	18.5	26.0	21.0
16	14.0	8.0	7.0	2.0	5.5	6.5	15.5	18.0	21.5	18.5	26.0	21.0
17	15.0	7.0	6.5	2.0	6.0	6.0	11.0	18.5	21.5	18.5	26.0	21.0
18	17.0	8.5	6.5	2.0	6.0	6.0	13.5	18.5	22.0	18.0	25.0	21.0
19	15.5	8.0	6.5	1.5	6.5	5.5	15.5	18.5	22.0	18.5	25.0	21.0
20	15.0	6.0	6.5	2.0	6.5	5.0	13.5	19.0	22.0	18.5	24.5	20.5
21	14.5	6.0	6.0	3.0	7.0	5.0	16.5	19.0	22.0	18.0	24.0	20.5
22	14.0	6.0	5.5	3.0	7.0	5.0	15.5	19.5	22.0	18.0	24.0	20.5
23	13.5	5.5	5.5	3.0	7.0	5.5	18.0	19.5	22.0	17.0	24.0	20.5
24	13.5	6.5	5.5	3.0	8.0	5.5	13.5	19.5	22.0	18.0	24.0	20.0
25	13.0	7.0	5.0	2.0	8.0	5.5	11.5	19.5	23.0	18.0	24.0	20.0
26	11.0	6.5	5.0	2.0	8.0	6.0	21.0	19.5	23.0	18.0	24.0	19.5
27	11.0	6.5	5.0	3.0	7.0	6.5	20.0	20.0	23.0	18.0	24.0	19.5
28	11.5	6.5	4.5	3.0	6.5	6.5	10.0	20.0	23.5	18.0	24.0	19.5
29	11.5	6.0	4.5	3.5	---	7.0	21.0	20.0	23.5	17.0	24.0	19.0
30	11.5	6.0	4.5	3.5	---	7.0	22.0	20.0	23.5	16.5	24.0	18.5
31	10.0	---	4.0	4.0	---	8.0	---	20.0	---	19.0	23.5	---
MEAN	14.0	8.5	6.5	2.5	5.5	6.0	13.5	18.5	21.5	18.5	24.0	21.5
WTR YR 1981	MEAN	13.5		MAX	26.5	MIN	1.5					

BIG SANDY RIVER BASIN

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03214700 ROCKCASTLE CREEK AT INEZ, KY

LOCATION.--Lat 37°52'05", long 82°32'32", Martin County, Ky., Hydrologic Unit 05070201, on downstream side of bridge on State Highway 40, about 300 ft (91 m) downstream from Coldwater Fork.

DRAINAGE AREA.--63.1 mi² (163.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1979 to June 1981 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 614.85 ft (187.406 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records for period November 1979 to September 1980 fair except for February, March, August, and September, which are poor. Water-discharge records for period October 1980 to June 1981 fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,030 ft³/s (85.8 m³/s) Aug. 22, 1980, gage height, 11.89 ft (3.624 m), from rating curve extended above 2,000 ft³/s (57 m³/s); minimum, 2.2 ft³/s (0.06 m³/s) Oct. 17, 22, 24, 1980, gage height, 3.06 ft (0.933 m).

EXTREMES FOR CURRENT PERIOD.--November 1979 to September 1980: Maximum discharge during period, 3,030 ft³/s (85.8 m³/s) Aug. 22, gage height, 11.89 ft (3.624 m), from rating curve extended above 2,000 ft³/s (57 m³/s); minimum, 3.8 ft³/s (0.11 m³/s) July 1-3, gage height, 3.14 ft (0.957 m).

October 1980 to June 1981: Maximum discharge during period, 1,900 ft³/s (53.8 m³/s) June 6, gage height, 9.11 ft (2.777 m); minimum, 2.2 ft³/s (0.06 m³/s) Oct. 17, 22, 24, gage height, 3.06 ft (0.933 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	75	83	52	75	155	58	19	4.0	7.0	10
2		---	63	73	50	70	136	52	14	3.9	6.7	9.0
3		---	50	65	48	66	121	49	12	5.3	5.9	12
4		---	50	70	46	90	127	45	12	8.0	6.3	16
5		---	46	77	44	720	104	42	11	41	57	13
6		---	46	61	43	610	95	38	9.5	60	29	12
7		---	44	67	42	290	84	35	10	14	28	10
8		---	35	70	41	245	101	29	11	9.8	83	8.0
9		---	30	67	40	180	217	26	8.4	12	108	7.6
10		---	30	62	39	124	163	23	7.4	204	47	12
11		---	28	138	38	110	135	24	7.7	58	28	17
12		---	115	201	37	97	116	22	7.2	48	16	13
13		---	1560	163	40	130	131	20	6.9	172	11	12
14		---	690	166	57	160	358	41	6.5	41	8.9	13
15		---	308	138	82	140	329	20	6.5	25	8.0	12
16		---	189	122	537	135	225	16	7.7	18	7.6	7.5
17		---	127	126	318	145	164	16	8.1	13	7.6	4.6
18		---	96	169	190	150	134	23	6.3	11	19	6.2
19		46	85	169	150	130	112	22	5.6	9.0	89	6.6
20		43	73	149	163	104	97	37	4.9	7.6	292	6.6
21		39	66	128	182	194	85	48	4.7	7.1	170	7.5
22		36	62	135	417	175	75	31	4.6	11	600	9.4
23		35	64	144	299	149	67	25	4.6	9.5	46	21
24		106	177	123	229	161	60	33	4.4	7.3	28	15
25		104	415	124	184	241	53	65	4.4	6.5	25	8.4
26		265	385	102	156	186	46	38	4.6	5.9	12	7.0
27		176	255	91	139	155	75	25	4.3	13	8.5	5.8
28		139	173	79	136	197	61	19	4.0	55	8.5	6.2
29		110	133	69	114	206	60	16	4.0	15	9.0	5.4
30		87	115	56	---	180	63	15	4.1	9.0	12	4.6
31		---	100	54	---	186	---	15	---	7.3	15	---
TOTAL		---	5685	3341	3913	5801	3749	968	225.4	911.2	1799.0	298.4
MEAN		---	183	108	135	187	125	31.2	7.51	29.4	58.0	9.95
MAX		---	1560	201	537	720	358	65	19	204	600	21
MIN		---	28	54	37	66	46	15	4.0	3.9	5.9	4.6
CFSM		---	2.90	1.71	2.14	2.96	1.98	.49	.12	.47	.92	.16
IN.		---	3.35	1.97	2.31	3.42	2.21	.57	.13	.54	1.06	.18

BIG SANDY RIVER BASIN

03214700 ROCKCASTLE CREEK AT INEZ, KY--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	2.8	27	32	29	118	62	40	353			
2	4.6	3.6	28	30	583	101	58	35	303			
3	5.0	3.4	31	25	165	86	52	30	199			
4	4.6	3.9	22	21	118	84	47	27	353			
5	4.6	3.6	21	21	96	277	94	26	307			
6	3.9	2.8	21	18	79	222	86	24	716			
7	3.4	2.6	19	17	70	160	75	24	839			
8	3.1	2.5	17	16	62	120	69	20	283			
9	2.8	2.8	37	15	49	99	79	18	145			
10	2.6	3.4	50	14	45	86	138	16	112			
11	2.5	2.8	40	13	82	74	160	19	82			
12	2.6	2.3	32	12	64	61	120	19	77			
13	2.6	2.3	29	13	90	56	99	16	99			
14	2.6	2.3	25	10	72	49	86	15	90			
15	2.3	2.3	22	10	61	42	72	16	65			
16	2.3	3.9	21	11	58	53	59	14	50			
17	2.3	24	19	7.9	124	49	230	13	41			
18	2.6	94	16	6.6	157	45	287	21	33			
19	4.3	29	15	7.0	136	42	199	193	29			
20	3.6	17	10	7.5	157	41	216	264	27			
21	2.6	14	8.4	16	122	40	162	118	24			
22	2.6	11	7.9	21	101	40	131	79	22			
23	2.5	11	9.4	18	242	53	114	56	19			
24	2.5	204	20	18	196	55	99	43	17			
25	19	92	19	21	136	52	79	37	16			
26	16	49	18	20	105	50	65	33	14			
27	6.2	50	17	18	88	49	56	79	12			
28	5.8	50	16	16	82	46	47	264	12			
29	5.8	40	16	14	---	42	47	207	11			
30	4.3	31	28	12	---	70	47	222	10			
31	3.1	---	31	8.9	---	69	---	708	---			
TOTAL	138.5	763.3	692.7	489.9	3369	2431	3135	2696	4360			
MEAN	4.47	25.4	22.3	15.8	120	78.4	105	87.0	145			
MAX	19	204	50	32	583	277	287	708	839			
MIN	2.3	2.3	7.9	6.6	29	40	47	13	10			
CFSM	.07	.40	.35	.25	1.90	1.24	1.66	1.38	2.30			
IN.	.08	.45	.41	.29	1.99	1.43	1.85	1.59	2.57			

CAL YR 1980 TOTAL 22600.5 MEAN 61.8 MAX 720 MIN 2.3 CFSM .98 IN 13.32

03214700 ROCKCASTLE CREEK AT INEZ, KY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1979 to June 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: December 1979 to June 1981 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 9,350 mg/L Aug. 21, 1980; minimum daily mean, 4 mg/L Jan. 16, 1981.

SEDIMENT LOADS: Maximum daily, 14,400 tons (13,100 metric tons) Aug. 20, 1980; minimum daily, 0.09 ton (0.08 metric ton) Oct. 4, 1980.

EXTREMES FOR PERIOD DECEMBER 1979 TO SEPTEMBER 1980.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 9,350 mg/L Aug. 21; minimum daily mean, 7 mg/L May 10.

SEDIMENT LOADS: Maximum daily, 14,400 tons (13,100 metric tons) Aug. 20; minimum daily, 0.16 ton (0.15 metric ton) July 20, 24.

EXTREMES FOR PERIOD OCTOBER 1980 TO JUNE 1981.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,070 mg/L June 2; minimum daily mean, 4 mg/L Jan. 16.

SEDIMENT LOADS: Maximum daily, 9,950 tons (9,030 metric tons) June 6; minimum daily, 0.09 ton (0.08 metric ton) Oct. 4.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV , 1979												
08...	1410	57	200	7.2	8.0	--	--	--	--	--	--	--
DEC												
06...	0950	44	260	--	4.0	--	--	--	--	--	--	--
12...	1550	29	--	--	9.0	--	--	--	--	--	--	--
13...	1005	1460	115	6.6	9.0	--	--	--	--	--	--	--
13...	1225	1910	105	6.1	9.0	--	--	--	--	--	--	--
13...	1610	2030	115	5.7	9.0	--	--	--	--	--	--	--
13...	1735	1870	--	--	--	--	--	--	--	--	--	--
JAN , 1980												
04...	1335	70	--	--	3.5	--	--	--	--	--	--	--
FEB												
06...	1640	44	1050	7.1	.0	--	--	--	--	--	--	--
26...	1405	149	153	6.0	3.5	--	.88	680	220	61	37	13
MAR												
20...	1110	100	130	7.2	7.5	--	--	--	--	--	--	--
APR												
01...	1800	152	166	--	12.0	--	--	--	--	--	--	--
02...	0845	139	141	--	10.0	--	--	--	--	--	--	--
02...	1455	131	160	6.5	15.0	--	--	--	--	--	--	--
03...	1840	115	148	--	16.0	--	--	--	--	--	--	--
04...	1525	126	168	--	12.0	--	--	--	--	--	--	--
23...	1315	59	233	7.5	19.5	5.6	1.8	1700	160	98	60	21
MAY												
08...	1755	28	320	7.0	18.0	--	--	--	--	--	--	--
15...	1545	19	360	7.9	20.0	--	--	--	--	--	--	--
20...	1320	32	283	7.2	17.5	--	1.6	K17000	9300	120	69	27
JUN												
11...	1140	8.5	430	7.8	21.0	--	--	--	--	--	--	--
16...	1335	8.5	400	7.4	21.0	--	--	--	--	--	--	--
18...	1315	6.2	420	7.8	26.0	--	.80	2200	750	180	110	41
JUL												
16...	1600	16	426	7.8	31.5	--	2.2	2700	980	190	130	44
30...	1345	8.5	530	7.0	28.5	--	--	--	--	--	--	--
AUG												
07...	1010	12	379	7.6	25.5	--	1.6	K30000	7500	180	110	44
13...	1315	9.5	500	8.1	28.0	--	--	--	--	--	--	--
SEP												
11...	1440	16	450	7.3	24.0	--	--	--	--	--	--	--
18...	1220	5.9	500	8.0	21.0	--	--	--	--	--	--	--
23...	1530	27	540	7.8	21.0	8.3	1.4	--	--	230	150	54
OCT												
15...	1145	2.2	550	7.6	13.0	--	--	--	--	--	--	--
21...	1715	2.6	680	7.8	15.0	10.4	.58	K6500	360	290	190	66
24...	0855	2.7	575	7.2	10.0	--	--	--	--	--	--	--
NOV												
21...	1330	13	420	7.8	9.5	--	--	--	--	--	--	--
DEC												
03...	1555	26	320	7.1	6.0	--	--	--	--	--	--	--
17...	1445	17	300	7.5	6.5	--	--	--	--	--	--	--
JAN , 1981												
06...	1510	17	280	7.1	1.0	13.5	1.4	4500	920	130	68	29
23...	1340	17	320	7.0	3.0	--	--	--	--	--	--	--
FEB												
19...	1100	157	160	7.6	7.5	--	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

03214700 ROCKCASTLE CREEK AT INEZ, KY--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW- INSTAN- TANFOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN- DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
FEB . 1981												
20...	0820	170	227	8.1	7.0	11.8	1.1	2000	1900	120	--	31
26...	1550	107	180	6.2	8.0	--	--	--	--	--	--	--
MAR												
18...	1350	40	260	7.3	6.0	--	--	--	--	--	--	--
APR												
15...	0945	75	173	7.3	13.0	10.2	.95	K11000	1900	70	40	16
20...	1215	267	190	7.7	13.5	--	--	--	--	--	--	--
22...	1645	120	170	6.1	15.0	--	--	--	--	--	--	--
MAY												
19...	1350	92	290	7.3	14.0	--	--	--	--	--	--	--
JUN												
10...	0935	112	243	7.4	20.0	8.6	.96	17000	14000	110	75	25
24...	1630	15	390	7.8	28.0	--	--	--	--	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
FEB . 1980											
26...	6.9	4.1	12	.2	5.7	1.6	24	39	5.2	.1	7.7
APR											
23...	11	4.3	9	.2	--	2.3	37	63	3.2	.1	7.7
MAY											
20...	12	7.0	11	.3	--	2.4	48	76	4.1	.1	6.8
JUN											
18...	18	12	13	.4	--	4.1	80	110	9.2	.2	3.6
JUL											
16...	20	7.0	7	.2	--	5.1	66	130	4.8	.2	6.7
AUG											
07...	18	6.4	7	.2	--	4.5	72	110	4.9	.2	5.4
SEP											
23...	24	8.1	7	.2	--	5.2	91	150	5.5	.2	5.4
OCT											
21...	36	11	7	.3	--	5.9	100	210	11	.1	.8
JAN . 1981											
06...	13	8.6	13	.3	--	3.0	54	75	7.5	.1	8.7
FEB											
20...	10	8.2	--	.3	--	--	87	49	3.0	<.1	8.6
APR											
15...	7.2	3.5	10	.2	--	2.0	30	43	3.3	<.1	7.9
JUN											
10...	12	4.3	8	.2	--	2.6	43	68	4.0	<.1	8.5

DATE	SOLIDS, RESIDUE AT 100 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDED RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
FEB . 1980											
26...	100	95	40.2	.58	.100	.20	.30	.000	120	110	10
APR											
23...	163	138	26.0	.60	.060	1.1	1.2	.010	--	--	100
MAY											
20...	177	170	15.3	1.1	.060	.41	.47	.020	--	--	200
JUN											
18...	280	239	4.6	.28	.000	.52	.52	.060	160	120	40
JUL											
16...	318	266	13.7	1.8	.000	.40	.40	.030	--	--	100
AUG											
07...	259	241	8.3	1.1	.110	.38	.49	.020	--	--	100
SEP											
23...	350	307	25.5	1.0	.070	.36	.43	.040	--	--	100
OCT											
21...	418	395	2.9	.05	.240	.29	.53	.050	110	90	20
JAN . 1981											
06...	201	181	9.2	.62	.130	.65	.78	.080	--	--	200
FEB											
20...	143	--	65.6	.59	.230	.28	.51	.030	9000	8900	90
APR											
15...	112	101	22.7	.32	.130	.50	.63	.040	--	--	100
JUN											
10...	171	147	51.7	.59	.410	.00	.37	.040	1000	970	30

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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03214700 ROCKCASTLE CREEK AT INEZ, KY--Continued

WATER QUALITY DATA

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECov- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECov- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECov- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
FEB , 1980											
26...	0	0	0	<10	0	200	150	50	3	3	0
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	50	--	--	--
MAY											
20...	--	--	--	--	--	--	--	50	--	--	--
JUN											
18...	0	0	0	10	0	800	790	10	0	0	0
JUL											
16...	--	--	--	--	--	--	--	10	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--
AUG											
07...	--	--	--	--	--	--	--	20	--	--	--
SEP											
23...	--	--	--	--	--	--	--	30	--	--	--
OCT											
21...	0	0	0	30	0	1400	1300	60	1	1	0
JAN , 1981											
06...	--	--	--	--	--	--	--	200	--	--	--
FEB											
20...	0	--	<1	20	0	20000	20000	70	23	21	2
APR											
15...	--	--	--	--	--	--	--	80	--	--	--
JUN											
10...	1	0	2	10	0	3300	3300	30	5	5	0

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECov- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECov- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECov- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
FEB , 1980											
26...	160	30	130	<.1	<.0	<.1	20	20	0	--	--
MAR											
20...	--	--	--	--	--	--	--	--	--	49	13
APR											
01...	--	--	--	--	--	--	--	--	--	118	48
02...	--	--	--	--	--	--	--	--	--	49	18
03...	--	--	--	--	--	--	--	--	--	33	10
04...	--	--	--	--	--	--	--	--	--	131	45
23...	--	--	80	--	--	--	--	--	--	--	--
MAY											
20...	--	--	230	--	--	--	--	--	--	--	--
JUN											
18...	400	20	380	<.1	--	<.1	30	30	0	--	--
JUL											
16...	--	--	170	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	44	1.0
AUG											
07...	--	--	200	--	--	--	--	--	--	--	--
SEP											
23...	--	--	170	--	--	--	--	--	--	--	--
OCT											
21...	250	0	260	<.1	--	<.1	20	20	0	--	--
JAN , 1981											
06...	--	--	550	--	--	--	--	--	--	--	--
FEB											
20...	590	500	90	.1	--	<.1	90	--	<4	--	--
APR											
15...	--	--	120	--	--	--	--	--	--	--	--
JUN											
10...	170	70	100	<.1	--	<.1	20	--	<4	--	--

BIG SANDY RIVER BASIN

03214700 ROCKCASTLE CREEK AT INEZ, KY--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1					46	9.3	44	9.9	41	5.8	72	15
2					40	6.8	37	7.3	30	4.1	115	22
3					37	5.0	31	5.4	23	3.0	128	23
4					34	4.6	44	8.3	28	3.5	114	28
5					27	3.4	29	6.0	28	3.3	2290	4450
6					19	2.4	26	4.3	27	3.1	5060	8330
7					16	1.9	36	6.5	23	2.6	2340	1830
8					17	1.6	32	6.0	14	1.5	320	212
9					12	.97	24	4.3	17	1.8	69	34
10					66	5.3	17	2.8	34	3.6	49	16
11					15	1.1	111	69	38	3.9	38	11
12					87	89	209	116	31	3.1	25	6.5
13					1600	6880	88	39	45	4.9	34	12
14					786	1460	93	42	68	10	75	32
15					269	224	38	14	84	19	36	14
16					62	32	25	8.2	2340	4170	28	10
17					30	10	16	5.4	153	131	55	22
18					31	8.0	59	30	90	46	167	68
19					23	5.3	62	28	102	41	69	24
20					20	3.9	50	20	1400	724	57	16
21					17	3.0	29	10	1500	746	910	519
22					19	3.2	163	67	2310	2720	150	71
23					41	7.1	108	42	128	103	54	22
24					175	84	49	16	121	75	99	48
25					447	501	37	12	108	54	197	131
26					317	330	26	7.2	116	49	104	52
27					103	71	20	4.9	139	52	62	26
28					74	35	20	4.3	77	28	3950	2630
29					47	17	18	3.4	94	29	1950	1140
30					40	12	15	2.3	---	---	21	10
31					40	11	52	7.6	---	---	8	4.0
TOTAL					---	9828.87	---	609.1	---	9041.2	---	19828.5
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	52	22	25	3.9	59	3.0	31	.33	36	.68	310	8.4
2	23	8.4	42	5.9	53	2.0	42	.44	20	.36	140	3.4
3	40	13	80	11	41	1.3	53	.76	14	.22	263	8.5
4	103	35	40	4.9	38	1.2	90	1.9	25	.43	164	7.1
5	38	11	154	17	30	.89	1740	222	4110	677	58	2.0
6	30	7.7	50	5.1	28	.72	1780	368	1300	102	31	1.0
7	23	5.2	47	4.4	38	1.0	320	12	1260	211	35	.95
8	424	212	32	2.5	69	2.0	213	5.6	2800	853	28	.60
9	1040	716	11	.77	28	.64	143	4.6	2840	1190	20	.41
10	92	40	7	.43	25	.50	8320	6990	2960	488	350	11
11	74	27	11	.71	27	.56	2960	511	1200	91	94	4.3
12	50	16	27	1.6	18	.35	1290	217	100	4.3	51	1.8
13	704	323	28	1.5	20	.37	2930	1460	69	2.0	25	.81
14	4020	4360	217	25	23	.40	460	51	34	.82	25	.88
15	420	373	56	3.0	19	.33	117	7.9	22	.48	29	.94
16	256	156	40	1.7	45	.94	68	3.3	15	.31	24	.49
17	145	64	34	1.5	25	.55	35	1.2	13	.27	23	.29
18	50	18	31	1.9	18	.31	21	.62	1320	195	15	.25
19	67	20	83	4.9	15	.23	13	.32	5080	1590	24	.43
20	46	12	149	15	14	.19	8	.16	7230	14400	86	1.5
21	18	4.1	289	39	27	.34	22	.42	9350	4290	42	.85
22	19	3.8	58	4.9	24	.30	113	3.4	4900	7940	25	.63
23	20	3.6	31	2.1	25	.31	45	1.2	305	38	690	50
24	15	2.4	327	73	43	.51	8	.16	95	7.2	32	1.3
25	20	2.9	944	185	23	.27	11	.19	49	3.3	47	1.1
26	20	2.5	100	10	14	.17	13	.21	26	.84	37	.70
27	99	21	149	10	17	.20	278	42	20	.46	37	.58
28	23	3.8	147	7.5	24	.26	1230	208	14	.32	25	.42
29	29	4.7	61	2.6	20	.22	133	5.4	11	.27	72	1.0
30	33	5.6	23	.93	27	.30	52	1.3	60	1.9	49	.61
31	---	---	29	1.2	---	---	20	.39	154	6.2	---	---
TOTAL	---	6493.7	---	448.94	---	20.36	---	10120.80	---	32095.36	---	112.24

03214700 ROCKCASTLE CREEK AT INEZ, KY--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	73	1.1	100	.76	15	1.1	26	2.3	56	8.2	80	25
2	44	.55	503	4.9	63	4.8	7	.57	349	700	70	19
3	16	.22	335	3.0	192	16	7	.47	125	56	40	9.3
4	7	.09	225	2.4	104	6.3	27	1.5	153	49	14	3.2
5	12	.15	198	1.9	18	1.0	46	2.5	129	33	164	133
6	20	.21	114	.86	23	1.3	17	.83	60	13	107	64
7	19	.17	33	.24	14	.71	27	1.2	39	7.4	82	35
8	17	.14	190	1.3	15	.70	27	1.2	38	6.4	70	23
9	17	.13	90	.68	201	29	22	.89	58	7.6	66	18
10	17	.12	22	.20	148	20	27	1.0	66	8.0	83	19
11	29	.19	20	.15	22	2.3	20	.70	349	86	82	16
12	18	.13	210	1.3	15	1.3	11	.35	285	49	49	8.0
13	16	.11	198	1.2	10	.78	7	.24	117	28	22	3.3
14	17	.12	52	.32	8	.54	16	.43	50	9.7	17	2.2
15	86	.53	365	2.3	9	.54	7	.19	55	9.0	38	4.3
16	67	.42	195	2.1	7	.40	4	.11	67	10	27	12
17	51	.32	177	25	25	1.3	6	.13	79	31	62	8.2
18	49	.35	282	71	19	.81	7	.12	511	211	64	7.7
19	72	.83	83	6.5	5	.20	16	.30	194	71	55	6.3
20	80	.78	14	.65	5	.13	14	.28	98	42	44	4.8
21	49	.35	16	.59	7	.16	77	3.3	84	28	43	4.6
22	26	.19	10	.28	7	.15	75	4.2	51	14	65	6.9
23	34	.23	12	.34	75	1.9	18	.87	1120	890	171	25
24	58	.39	1650	1190	100	5.4	17	.83	330	175	114	17
25	156	9.0	194	48	87	4.5	22	1.3	44	16	33	4.6
26	452	19	48	6.3	48	2.3	18	.96	56	16	16	2.2
27	250	4.2	130	18	21	.98	9	.44	35	8.3	26	3.4
28	188	2.9	64	8.7	12	.53	19	.81	44	9.8	17	2.1
29	251	3.9	27	2.9	13	.58	14	.51	---	---	25	2.8
30	567	6.5	17	1.4	87	6.6	8	.25	---	---	282	54
31	285	2.4	---	---	66	5.6	11	.26	---	---	116	21
TOTAL	---	55.72	---	1403.27	---	117.91	---	29.04	---	2592.4	---	564.9
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	40	6.7	18	1.9	3160	2880						
2	31	4.8	8	.75	4070	3250						
3	21	2.9	7	.57	670	360						
4	24	3.1	9	.66	1020	1990						
5	226	57	11	.77	1080	1120						
6	88	20	14	.91	2650	9950						
7	27	5.5	12	.78	2260	6740						
8	22	4.1	7	.37	255	195						
9	65	14	6	.29	171	67						
10	150	56	6	.27	400	120						
11	110	47	12	.61	71	16						
12	65	21	12	.61	360	75						
13	44	12	10	.44	1170	314						
14	47	11	15	.61	230	56						
15	36	7.0	15	.64	68	12						
16	19	3.0	8	.31	45	6.1						
17	1650	1440	10	.35	41	4.5						
18	625	503	62	6.8	37	3.3						
19	1930	1000	541	275	22	1.7						
20	850	495	423	312	21	1.5						
21	103	45	72	23	16	1.0						
22	53	19	50	11	44	2.6						
23	53	16	29	4.4	30	1.5						
24	27	7.2	18	2.1	10	.47						
25	17	3.6	21	2.1	10	.42						
26	27	4.8	22	2.0	9	.35						
27	16	2.4	715	486	10	.33						
28	13	1.7	2400	1930	9	.28						
29	19	2.4	1250	760	7	.20						
30	26	3.3	1460	1390	11	.30						
31	---	---	2380	5940	---	---						
TOTAL	---	3818.5	---	11155.24	---	27169.55						

BIG SANDY RIVER BASIN
03214900 TUG FORK AT GLENHAYES, WV

LOCATION.--Lat 38°00'20", long 82°30'53", Wayne County, Hydrologic Unit 05070201, on right bank 400 ft (122 m) upstream from Lost Creek, 0.2 mi (0.3 km) downstream from Rock Castle Creek, 0.9 mi (1.4 km) southeast of Glenhayes, and at mile 10.1 (16.3 km).

DRAINAGE AREA.--1,507 mi² (3,903 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1976 to current year.

REVISED RECORDS.--WDR WV-78-1: 1977.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 536.57 ft (163.547 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

AVERAGE DISCHARGE.--5 years, 2,060 ft³/s (58.34 m³/s), 18.65 in/yr (474 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s (1,360 m³/s) Apr. 6, 1977, gage height, 44.00 ft (13.411 m); minimum discharge, 125 ft³/s (3.54 m³/s) Sept. 9, 1976; minimum gage height, 2.17 ft (0.661 m) Sept. 30, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,300 ft³/s (603 m³/s) June 8, gage height, 30.23 ft (9.214 m), no other peak above base of 11,000 ft³/s (310 m³/s); minimum, 145 ft³/s (4.11 m³/s) Sept. 30, gage height, 2.17 ft (0.661 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	207	823	671	518	2230	1720	1620	5260	565	472	188
2	256	194	718	638	2990	2820	1650	1470	6230	901	400	194
3	253	184	728	605	4660	2630	1720	1330	7370	891	373	211
4	246	178	680	557	3200	2190	1670	1170	6770	656	362	264
5	239	172	642	320	2040	2880	1840	1110	8630	839	340	431
6	235	166	610	360	1630	5660	2660	1040	8120	2220	509	362
7	231	172	565	440	1390	5260	3170	970	14100	3650	539	366
8	214	172	539	450	1220	3900	2710	901	19900	2080	480	301
9	201	163	518	400	1080	2980	2320	828	10200	1520	552	535
10	191	160	743	320	981	2390	2560	753	5440	1100	773	377
11	184	160	768	270	1100	2000	3410	714	4650	1050	544	297
12	181	169	709	240	1430	1710	3870	709	3590	813	431	253
13	175	172	675	270	1630	1530	3250	733	3460	704	396	224
14	166	166	610	300	1820	1400	2660	728	3960	642	480	207
15	166	163	544	320	1620	1210	2460	656	3120	728	451	279
16	160	160	497	310	1450	1140	2110	778	2340	1740	370	460
17	158	184	488	280	1550	1330	2640	778	1880	1090	347	455
18	160	472	427	240	2890	1620	5310	704	1640	901	328	624
19	160	671	392	250	3940	1640	6070	1280	1450	758	309	447
20	153	619	366	290	3550	1530	5260	4160	1250	633	279	336
21	158	447	324	330	3620	1400	7440	6920	1140	592	253	279
22	158	370	250	600	3380	1240	5820	4250	1050	642	235	246
23	153	320	290	800	3260	1300	4410	2790	944	656	235	218
24	153	976	350	1000	4090	1710	3860	2100	813	647	228	201
25	163	2880	400	1200	3820	2420	3370	1710	714	548	214	184
26	279	2260	340	900	3010	3180	2910	1510	661	464	204	175
27	373	1430	440	748	2390	2900	2480	1370	813	420	194	166
28	377	1150	580	694	2000	2500	2110	1900	743	518	191	163
29	313	997	540	647	---	2050	1860	3600	592	783	184	158
30	253	896	640	574	---	1890	1740	4870	535	661	184	153
31	224	---	660	509	---	1900	---	4910	---	638	184	---
TOTAL	6593	16430	16856	15533	66259	70540	95060	58362	127365	30050	11041	8754
MEAN	213	548	544	501	2366	2275	3169	1883	4246	969	356	292
MAX	377	2880	823	1200	4660	5660	7440	6920	19900	3650	773	624
MIN	153	160	250	240	518	1140	1650	656	535	420	184	153
CFSM	.14	.36	.36	.33	1.57	1.51	2.10	1.25	2.82	.64	.24	.19
IN.†	.16	.41	.42	.38	1.64	1.74	2.35	1.44	3.14	.74	.27	.22
IN.‡	1.99	3.37	1.75	.58	4.52	1.80	5.03	4.90	7.55	4.58	2.40	2.16

CAL YR 1980 TOTAL 596801 MEAN 1631 MAX 7820 MIN 153 CFSM 1.08 IN 14.73
WTR YR 1981 TOTAL 522843 MEAN 1432 MAX 19900 MIN 153 CFSM .95 IN 12.91

† Runoff.

‡ Rainfall.

BIG SANDY RIVER BASIN
03214900 TUG FORK AT GLENHAYES, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1977 to September 1980.

WATER TEMPERATURES: October 1978 to September 1980.

SUSPENDED SEDIMENT DISCHARGE: March 1977 to September 1980 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 848 micromhos June 29, 1980; minimum daily, 93 micromhos Dec. 9, 1978.

WATER TEMPERATURES: Maximum daily observed, 33.0°C Aug. 3, 10, 1980, minimum daily observed, 0.0°C Feb. 6, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 7,930 mg/L July 16, 1979; minimum daily mean, 1 mg/L Nov. 7, 8, 14, 15, 1978.

SEDIMENT LOADS: Maximum daily, 320,000 tons (290,000 metric tons) Apr. 5, 1977; minimum daily, 0.42 tons (0.38 metric ton) Nov. 7, 1978.

EXTREMES FOR 1979 WATER YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 7,930 mg/L July 16; minimum daily mean, 1 mg/L Nov. 7, 8, 14, 15.

SEDIMENT LOADS: Maximum daily, 162,000 tons (147,000 metric tons); minimum daily, 0.42 ton (0.38 metric ton) Nov. 7.

EXTREMES FOR 1980 WATER YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,350 mg/L Aug. 22; minimum daily mean, 5 mg/L June 10.

SEDIMENT LOADS: Maximum daily, 63,800 tons (57,900 metric tons) Aug. 23; minimum daily, 6.3 tons (5.7 metric tons) June 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS. NONCAR- BONATE (MG/L CAC03)
OCT											
22...	1000	158	1050	8.1	11.5	9.7	.13	K67	K50	170	0
23...	1610	150	1000	7.8	15.0	--	--	--	--	--	--
DEC											
04...	0930	680	425	7.1	4.0	--	--	--	--	--	--
05...	1130	610	425	7.5	4.5	--	--	--	--	--	--
JAN											
07...	0940	440	450	7.7	.0	14.4	.61	140	120	120	23
FEB											
23...	1130	3100	202	7.5	9.0	11.2	.82	K6700	660	82	--
27...	1120	2420	240	7.2	7.0	--	--	--	--	--	--
APR											
14...	1430	2600	233	7.2	17.5	9.0	.66	2800	1900	76	34
23...	1515	4340	220	6.6	9.5	--	--	--	--	--	--
24...	1140	3900	320	6.5	14.0	--	--	--	--	--	--
JUN											
10...	1620	5120	300	7.2	20.5	8.0	.78	3400	8100	--	--
25...	1020	712	670	7.4	25.0	--	--	--	--	--	--
JUL											
22...	1030	619	600	7.7	26.0	--	--	--	--	160	--
AUG											
14...	1015	474	650	7.7	24.5	--	--	--	--	--	--
SEP											
30...	1335	152	875	8.0	18.5	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

03214900 TUG FORK AT GLENHAYES, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CA ²⁺ CO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO ₂)
OCT 22...	40	18	140	63	4.6	4.5	200	180	76	.2	.7
JAN 07...	28	11	44	45	1.8	2.6	92	95	16	.1	5.7
FEB 23...	21	7.1	12	--	.6	--	37	46	7.1	<.1	8.5
APR 14...	18	7.5	16	31	.8	2.5	47	52	7.7	<.1	8.3
JUN 10...	--	--	--	--	--	--	48	74	6.9	<.1	--
JUL 22...	39	16	57	--	1.9	--	130	120	22	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 22...	574	580	245	.02	.10	.11	.010	80	20	60
JAN 07...	266	258	316	.45	.16	.16	.020	--	--	200
FEB 23...	135	--	1130	.61	.15	.21	<.010	1200	1200	30
APR 14...	151	137	1060	.43	.19	.23	.030	--	--	0
JUN 10...	163	--	2250	.49	.26	.29	.070	1100	1100	10
JUL 22...	372	--	622	--	--	--	--	--	--	--

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)
OCT 22...	0	0	0	30	0	270	250	20	0	0
JAN 07...	--	--	--	--	--	--	--	<10	--	--
FEB 23...	0	--	<1	10	0	2600	2600	40	9	6
APR 14...	--	--	--	--	--	--	--	50	--	--
JUN 10...	1	0	2	20	0	11000	11000	20	20	20
JUL 22...	--	--	--	--	--	960	950	10	--	--

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 22...	0	40	20	20	<.1	--	<.1	10	10	0
JAN 07...	--	--	--	80	--	--	--	--	--	--
FEB 23...	3	140	130	10	.3	.0	.3	40	--	<4
APR 14...	--	--	--	10	--	--	--	--	--	--
JUN 10...	0	450	380	70	<.1	--	<.1	50	--	<4
JUL 22...	--	50	--	<10	--	--	--	--	--	--

BIG SANDY RIVER BASIN

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03214900 TUG FORK AT GLENHAYES, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5	2.6	3	1.4	38	43	311	2960	128	916	275	4480
2	5	2.6	2	.94	41	53	1080	25500	98	606	235	3170
3	5	2.6	2	.90	42	52	1030	30300	79	427	195	2310
4	5	2.6	2	.86	1220	18800	540	9990	75	364	185	1960
5	6	3.5	2	.86	1940	33900	365	3980	66	294	325	4310
6	5	3.0	2	.84	620	5840	265	2170	60	243	530	10100
7	4	2.4	1	.42	455	2900	975	9610	118	446	245	3610
8	4	2.3	1	.43	1640	55200	1280	36600	107	361	161	1890
9	3	1.6	2	.92	1160	96200	715	20500	85	270	164	1630
10	3	1.5	4	1.9	600	53100	295	5170	58	172	262	2210
11	2	.98	4	2.0	525	22400	170	1960	44	125	241	2130
12	2	.96	2	1.0	505	8470	136	1190	46	127	288	2760
13	8	3.8	2	1.0	347	2930	119	877	45	121	248	2240
14	11	5.2	1	.47	169	1080	107	786	46	164	234	1930
15	13	8.4	1	.43	130	660	97	652	60	253	203	1570
16	11	7.7	2	.96	85	358	88	520	764	13100	266	1820
17	7	4.9	7	5.1	71	257	75	407	1130	24300	112	683
18	5	3.3	13	12	47	146	72	375	650	10300	77	430
19	5	3.0	8	7.3	44	119	80	380	380	4290	140	733
20	8	4.3	9	7.6	40	99	290	2380	185	1630	75	371
21	8	3.9	4	2.9	211	849	1270	54900	157	1280	37	172
22	6	2.9	3	2.0	583	5660	2070	162000	307	3330	46	200
23	4	1.8	3	1.9	394	3970	680	27500	413	5830	46	188
24	4	1.8	5	3.1	167	1150	350	6710	679	12200	257	1520
25	3	1.4	4	2.4	120	739	300	6070	849	26700	529	9230
26	3	1.3	3	1.8	159	1180	270	4520	968	34700	406	7320
27	3	1.4	11	7.9	132	1000	225	3100	543	17600	178	2350
28	3	1.5	25	26	93	552	170	2110	350	7820	163	1710
29	2	1.1	25	27	60	277	120	1260	---	---	224	1980
30	3	1.6	21	22	49	193	141	1320	---	---	149	1150
31	4	2.0	---	---	82	390	142	1150	---	---	281	1940
TOTAL	---	87.94	---	144.33	---	318567	---	426947	---	167969	---	78097
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	296	2010	43	218	264	2150	347	2160	201	1110	73	191
2	106	1220	40	183	344	2820	175	954	154	736	63	142
3	522	11500	28	118	377	2900	100	459	131	531	165	445
4	754	22800	36	156	1380	21700	696	3810	117	363	99	243
5	410	11300	196	1620	660	10300	1230	10100	86	218	57	115
6	336	6700	278	3180	335	3240	500	3400	57	137	43	80
7	194	2880	186	1910	179	1190	194	990	36	76	60	145
8	247	2860	116	930	127	662	357	1440	25	47	117	299
9	236	2530	88	580	158	729	282	1150	22	37	83	167
10	208	2360	71	397	847	7190	123	608	14	21	45	72
11	232	2410	84	413	571	4840	113	513	75	263	31	40
12	251	2320	51	220	278	1850	192	898	753	2340	25	29
13	283	2350	198	1240	75	383	342	1880	254	748	32	35
14	265	2050	797	6610	165	650	138	630	213	549	50	56
15	125	915	405	3310	79	254	223	1260	125	228	41	51
16	72	500	185	1190	41	110	7930	144000	52	73	26	28
17	62	398	109	565	29	71	1070	8750	21	26	16	16
18	54	313	74	320	160	874	765	4480	15	17	12	11
19	45	237	58	218	1150	11400	525	2380	33	35	11	9.6
20	36	174	45	149	2330	49100	310	1170	384	866	15	12
21	36	161	35	107	1490	27700	350	1340	1430	6990	38	55
22	38	160	29	82	1950	48900	265	866	1300	5830	1480	14100
23	27	109	41	107	1130	46600	280	907	1660	11200	1510	17200
24	19	71	100	381	430	16100	800	2890	1950	11700	570	4230
25	24	85	550	3520	580	14700	180	515	1080	4960	224	1100
26	36	123	385	2810	640	13300	713	4050	713	4050	97	348
27	40	153	220	1700	525	6960	1590	29900	1210	11700	102	295
28	131	683	1310	24200	333	2920	1720	31200	530	4610	95	282
29	109	697	743	10700	247	1790	815	10200	315	1780	125	402
30	71	408	173	1330	214	1380	400	3670	142	579	96	295
31	---	---	94	543	---	---	270	1870	94	302	---	---
TOTAL	---	8,477	---	69207	---	302763	---	278440	---	72122	---	40493.6
TOTAL LOAD FOR YEAR: 1835114.87 TONS.												

TOTAL LOAD FOR YEAR: 1835114.87 TONS.

BIG SANDY RIVER BASIN

03214900 TUG FORK AT GLENHAYES, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	60	166	32	47	77	453	43	223	95	475	68	426
2	42	107	211	1360	54	271	34	154	90	399	65	364
3	80	200	440	5550	50	213	29	116	85	345	64	348
4	216	645	303	3540	46	169	29	104	82	311	70	387
5	139	383	219	1660	44	149	25	95	79	283	424	5100
6	83	185	161	900	40	132	25	92	79	273	823	17000
7	47	95	112	513	38	120	26	90	72	253	445	8830
8	36	70	70	275	35	101	35	128	69	224	252	3830
9	40	71	50	174	33	86	77	373	56	170	190	2340
10	146	548	58	307	30	70	73	411	51	151	143	1450
11	262	1230	244	2210	27	58	94	525	48	136	129	1130
12	246	1340	298	2970	25	51	177	1250	39	111	107	831
13	172	752	258	2630	24	194	120	813	34	90	96	679
14	129	697	181	1750	400	3460	61	419	28	75	105	754
15	94	533	118	896	278	2510	82	633	55	177	98	710
16	75	324	75	461	96	649	109	956	507	4920	78	541
17	75	263	56	287	66	367	94	780	475	7940	69	470
18	51	151	45	198	49	227	180	1480	230	3310	138	1220
19	31	80	35	135	41	165	1560	26900	159	1670	317	4250
20	21	46	27	91	34	122	1050	21700	137	1190	215	2790
21	17	34	28	85	25	82	425	5800	170	1480	176	2220
22	15	27	22	62	23	69	350	3700	1280	16900	360	6300
23	14	23	20	53	30	87	675	8950	710	10500	400	7030
24	12	19	30	96	71	258	818	15600	246	2890	230	3170
25	13	19	148	800	240	1530	300	4480	187	1810	305	4350
26	21	30	299	2590	271	2460	178	2020	138	1180	280	4300
27	23	31	986	15800	258	3160	162	1450	102	783	182	2450
28	19	25	460	6090	154	1620	130	981	96	683	166	1910
29	16	25	211	1980	98	798	122	809	78	540	211	2600
30	24	41	121	872	73	492	119	696	---	---	193	2410
31	20	32	---	---	55	324	106	557	---	---	164	1930
TOTAL	---	8192	---	54382	---	20447	---	102285	---	59269	---	92120
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	133	1400	1040	22500	45	102	15	11	116	145	420	710
2	118	1090	948	17900	30	63	9	6.4	55	56	350	542
3	126	1040	450	5490	26	50	9	6.4	30	27	700	1700
4	538	4540	272	2590	19	34	20	17	24	22	660	1180
5	2050	29800	204	1610	15	24	84	100	80	79	245	344
6	700	8730	159	1080	11	16	185	320	740	1020	112	130
7	198	1930	126	758	12	17	285	401	395	647	78	82
8	250	2120	101	540	11	15	186	190	170	308	52	52
9	511	5960	94	445	10	14	220	270	570	1290	52	76
10	853	11400	75	317	5	6.3	805	4500	390	595	310	753
11	250	2630	56	216	15	18	2650	27500	120	139	570	1230
12	122	1060	48	173	34	38	2540	25700	152	173	275	460
13	122	946	44	147	25	27	1560	11700	778	2080	123	166
14	286	2820	75	250	16	17	1140	6680	650	992	62	64
15	414	5890	58	191	23	23	650	3610	335	364	66	59
16	191	2540	34	99	48	49	409	1450	146	129	42	34
17	131	1450	37	99	22	23	268	692	75	61	35	28
18	95	886	33	91	23	24	165	336	170	144	29	21
19	95	776	75	224	19	19	77	128	1900	10500	25	18
20	80	574	127	478	24	22	46	67	2670	19400	24	18
21	81	518	306	1390	17	15	46	59	2950	16600	19	14
22	77	440	359	2290	14	12	56	67	5350	59100	42	33
23	69	353	194	1110	22	18	40	49	5340	63800	188	413
24	58	271	150	672	19	16	126	339	940	5690	689	1540
25	46	199	209	857	12	9.8	242	618	354	1360	246	481
26	42	172	109	445	22	18	73	111	183	512	154	224
27	69	323	55	210	14	11	41	49	116	258	94	105
28	1100	18900	42	140	14	12	250	343	82	151	57	56
29	766	12600	48	138	13	11	1250	7030	66	102	38	33
30	275	3110	30	77	14	11	1160	3230	125	176	30	24
31	---	---	27	63	---	---	320	532	971	2000	---	---
TOTAL	---	124468	---	62590	---	735.1	---	96111.8	---	187920	---	10590
TOTAL LOAD FOR YEAR:			819109.9 TONS.									

TOTAL LOAD FOR YEAR: 819109.9 TONS.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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POTOMAC RIVER BASIN

01605500 - SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, W. VA. (LAT 38 38 14 LONG 079 20 14)

OCT , 1980						
23...	1345	32	195	8.4	10.5	--
DEC						
17...	1415	41	200	8.2	4.0	--
JAN , 1981						
28...	1410	48	220	7.3	4.0	--
MAR						
18...	1230	60	210	8.0	1.0	--
MAY						
14...	1720	62	185	8.5	19.5	--
JUL						
09...	1330	98	220	8.9	20.0	--
AUG						
26...	1330	26	219	7.5	19.0	--

01606500 - SO. BRANCH POTOMAC RIVER NEAR PETERSBURG, W. VA. (LAT 38 59 34 LONG 079 10 26)

OCT , 1980						
24...	0850	88	260	7.7	9.0	--
DEC						
17...	1620	240	160	7.9	3.0	--
JAN , 1981						
28...	1610	213	200	7.9	3.5	--
MAR						
18...	1510	302	195	7.8	1.5	--
MAY						
15...	0900	357	170	7.6	15.0	--
JUL						
10...	0830	341	191	8.0	22.0	--
AUG						
26...	1635	54	260	7.9	21.0	--

01607500 - SO FK SO BR POTOMAC R AT BRANDYWINE W VA (LAT 38 37 53 LONG 079 14 38)

OCT , 1980						
23...	1200	6.5	210	7.5	9.5	10.7
DEC						
17...	1050	13	170	7.4	2.0	12.4
JAN , 1981						
28...	1200	8.5	220	7.6	3.0	10.2
MAR						
18...	1050	23	132	6.5	1.5	13.4
MAY						
14...	1245	43	118	7.7	18.5	9.0
JUL						
09...	1140	81	136	8.0	20.0	8.8
AUG						
26...	1130	3.5	208	7.2	17.0	8.0

01608000 - SO FK SOUTH BRANCH POTOMAC R NR MOOREFIELD W VA (LAT 39 00 44 LONG 078 57 23)

OCT , 1980						
23...	0940	23	235	7.4	10.0	--
DEC						
17...	0900	35	190	7.3	3.0	--
JAN , 1981						
28...	1000	24	220	7.5	1.0	--
MAR						
18...	0830	53	137	7.1	1.5	--
MAY						
14...	0810	120	155	7.1	13.0	--
JUL						
09...	0850	200	152	7.4	21.0	--
AUG						
26...	0905	14	230	7.5	18.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
POTOMAC RIVER BASIN--Continued						
01611500	- CACAPON RIVER NEAR GREAT CACAPON, W. VA. (LAT 39 34 43 LONG 078 18 34)					
OCT , 1980						
21...	1120	69	205	7.6	13.0	--
DEC						
15...	1200	122	145	7.4	3.0	--
JAN , 1981						
26...	1215	102	200	7.6	1.0	--
MAR						
17...	0855	249	158	7.0	3.5	--
MAY						
11...	1120	330	112	7.4	16.0	--
JUL						
07...	1110	163	153	8.2	24.0	--
AUG						
24...	1300	52	200	7.1	21.0	--
01616500	- OPEQUON CREEK NEAR MARTINSBURG, W. VA. (LAT 39 25 25 LONG 077 56 20)					
OCT , 1980						
21...	0830	63	600	8.4	13.0	--
DEC						
16...	0810	62	710	8.2	2.0	--
JAN , 1981						
27...	1030	50	620	7.9	1.0	--
MAR						
16...	1410	107	600	8.2	5.0	--
JUL						
07...	1500	145	600	7.8	23.0	--
AUG						
24...	1630	60	675	8.0	19.5	--
MONOGAHELA RIVER BASIN						
03050500	- TYGART VALLEY RIVER NEAR ELKINS, W. VA. (LAT 38 55 30 LONG 079 52 45)					
OCT , 1980						
22...	1425	5.0	245	7.0	13.0	--
DEC						
03...	1545	1560	70	6.7	5.0	--
JAN , 1981						
21...	1020	94	--	--	2.0	--
MAR						
12...	1200	295	80	6.8	5.0	--
MAY						
06...	1640	325	80	6.8	15.0	--
JUN						
30...	1315	142	--	7.0	23.0	--
AUG						
26...	1215	16	160	6.4	22.0	--
03051000	- TYGART VALLEY RIVER AT BELINGTON, W. VA. (LAT 39 01 45 LONG 079 56 10)					
OCT , 1980						
22...	1205	30	225	7.4	12.0	--
JAN , 1981						
20...	1545	147	165	6.6	10.0	--
MAR						
10...	1640	723	110	6.7	4.0	--
MAY						
06...	1400	603	100	6.7	15.0	--
JUN						
30...	1020	236	165	7.0	21.0	--
AUG						
25...	1605	29	265	6.5	25.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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MONONGAHELA RIVER BASIN--Continued

03053500 - BUCKHANNON RIVER AT HALL, W. VA. (LAT 39 03 05 LONG 080 06 50)

OCT , 1980						
21...	1515	20	350	7.3	15.0	--
DEC						
03...	1145	1300	110	7.2	5.0	--
JAN , 1981						
20...	1300	123	170	6.5	1.0	--
MAR						
10...	1405	593	120	6.7	4.0	--
MAY						
05...	1700	580	90	6.7	15.0	--
JUN						
29...	1430	199	140	6.7	23.0	--
JUL						
22...	1900	134	225	7.0	25.0	--
AUG						
25...	1330	23	180	6.6	26.0	--

03058500 - W. F. RIVER AT BUTCHERVILLE, W. VA. (LAT 39 05 25 LONG 080 28 05)

OCT , 1980						
23...	1230	9.3	180	7.1	--	--
DEC						
11...	1145	514	160	7.2	--	--
MAR , 1981						
18...	1705	238	--	--	4.0	--

03059000 - WEST FORK RIVER AT CLARKSBURG, W. VA. (LAT 39 16 15 LONG 080 21 20)

OCT , 1980						
14...	1000	44	580	7.4	13.0	--
DEC						
05...	1130	642	240	7.4	4.5	--
JAN , 1981						
16...	1030	107	400	8.0	1.0	--
MAR						
10...	1005	524	339	6.9	3.0	--
JUN						
24...	0950	678	308	7.5	20.0	--

03062400 - COBUN CREEK AT MORGANTOWN, W. VA. (LAT 39 36 30 LONG 079 57 20)

OCT , 1980						
10...	1230	.44	230	7.4	13.0	--
DEC						
03...	1315	21	170	7.6	7.0	--
JAN , 1981						
09...	1330	5.5	160	6.4	.5	--
MAR						
11...	1340	16	180	7.2	.5	--
JUN						
23...	1315	12	170	7.5	18.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
MONONGAHELA RIVER BASIN--Continued						
03065000	- DRY FORK AT HENDRICKS, W. VA. (LAT 39 04 20 LONG 079 37 20)					
NOV , 1980						
05...	1420	188	65	7.0	8.0	--
DEC						
17...	1400	519	70	6.7	2.0	--
APR , 1981						
02...	1535	1540	50	6.9	11.0	--
MAY						
28...	1545	1400	58	7.1	18.0	--
JUL						
16...	0900	131	85	7.0	20.0	--
SEP						
01...	1430	217	105	6.7	25.0	--
03066000	- BLACKWATER RIVER AT DAVIS, W. VA. (LAT 39 07 35 LONG 079 28 10)					
NOV , 1980						
04...	1645	36	125	6.7	8.5	--
DEC						
16...	1600	135	90	6.1	5.0	--
FEB , 1981						
04...	1240	174	--	--	-1.0	--
MAR						
31...	1720	459	80	6.7	10.0	--
MAY						
26...	1645	110	110	5.3	20.0	--
JUL						
14...	1500	85	180	6.5	22.0	--
AUG						
31...	1545	13	150	6.6	20.0	--
03066630	- TUB RUN NR DOUGLAS, WV (LAT 39 06 53 LONG 079 33 00)					
MAY , 1981						
20...	1145	6.4	48	4.2	12.0	--
27...	1105	.59	35	5.1	17.0	--
JUN						
09...	1655	2.2	290	6.8	17.5	--
JUL						
16...	1231	.01	--	--	21.0	--
SEP						
02...	1022	6.0	80	4.6	23.5	--
03066720	- BIG RUN NR DOUGLAS, WV (LAT 39 06 44 LONG 079 34 22)					
MAY , 1981						
20...	1342	9.6	60	3.8	10.0	--
27...	1240	1.5	185	4.1	13.0	--
JUN						
09...	1315	5.0	60	6.7	18.0	--
JUL						
16...	1345	.27	85	7.0	17.0	--
SEP						
02...	1205	12	80	4.0	16.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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MONONGAHELA RIVER BASIN--Continued

03066730 - WEST FORK BIG RUN NR DOUGLAS, WV (LAT 39 06 55 LONG 079 34 47)

MAY , 1981						
20...	1455	8.9	50	4.1	14.0	--
27...	1330	1.3	42	4.1	15.0	--
JUN						
09...	1415	5.1	45	4.4	16.0	--
JUL						
16...	1445	.26	45	4.5	21.0	--
SEP						
02...	1310	7.6	78	3.6	18.0	--

03069000 - SHAVERS FORK AT PARSONS, W. VA. (LAT 39 05 45 LONG 079 40 40)

NOV , 1980						
05...	1555	171	50	7.0	9.0	--
DEC						
17...	1510	289	50	7.0	1.0	--
APR , 1981						
03...	1040	1250	42	7.2	9.0	--
MAY						
29...	0930	2360	42	6.5	13.0	--
JUL						
16...	1020	146	70	6.8	22.0	--
SEP						
02...	1440	154	70	6.7	23.0	--

03070500 - BIG SANDY CREEK AT ROCKVILLE, W. VA. (LAT 39 37 15 LONG 079 42 20)

OCT , 1980						
16...	1400	16	255	5.4	12.0	--
MAR , 1981						
10...	1010	379	--	--	3.5	--
APR						
30...	1000	561	98	7.1	11.0	--
AUG						
18...	1350	42	220	7.3	20.5	--

03075650 - HAYES RUN NR CRANESVILLE, WV (LAT 39 31 55 LONG 079 29 16)

MAY , 1981						
20...	1030	3.8	50	5.8	9.0	--

03075670 - MUDDY CREEK NR CRANESVILLE, WV (LAT 39 31 29 LONG 079 28 54)

MAY , 1981						
20...	1100	26	50	6.0	9.0	--

03075680 - CUPP RUN NR CRANESVILLE, WV (LAT 39 30 45 LONG 079 30 05)

MAY , 1981						
20...	1200	7.2	--	--	9.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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LITTLE KANAWHA RIVER BASIN

03151520 - LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV (LAT 38 50 41 LONG 080 37 45)

OCT , 1980						
07...	1510	27	<50	6.5	21.0	--
NOV						
05...	1350	143	<50	6.7	12.0	--
DEC						
01...	1600	732	<50	6.6	8.0	--
MAR , 1981						
04...	1330	733	60	6.0	5.0	--
APR						
07...	1440	16	74	6.2	10.0	--
09...	1730	16	--	--	20.5	--
MAY						
05...	1530	200	60	6.4	15.0	--
JUN						
30...	1330	54	65	6.6	22.0	--
AUG						
10...	1415	108	64	6.5	25.0	--

KANAWHA RIVER BASIN

03180000 - NEW RIVER AT BLUESTONE DAM W VA (LAT 37 38 35 LONG 080 53 00)

NOV , 1980						
12...	0930	1920	--	--	10.0	--
DEC						
15...	1200	860	190	8.4	6.5	--
FEB , 1981						
11...	1020	6250	110	7.4	2.5	--
MAR						
24...	1700	4980	140	7.6	6.0	--
MAY						
13...	1650	7520	130	7.4	17.0	--
JUN						
29...	1530	1560	135	8.0	26.5	--
AUG						
25...	1300	849	190	8.6	24.5	--

03182700 - ANTHONY CREEK NEAR ANTHONY, W. VA. (LAT 37 54 30 LONG 080 17 30)

OCT , 1980						
22...	1645	10	105	7.8	12.5	9.9
DEC						
02...	1500	37	85	7.5	6.0	11.6
JAN , 1981						
14...	1115	16	125	7.3	.0	12.9
MAR						
03...	1200	108	60	6.9	3.0	12.1
APR						
08...	1600	90	61	7.7	12.5	10.5
JUN						
01...	1735	417	50	6.8	14.0	--
JUL						
15...	1745	22	105	8.0	25.5	--
AUG						
19...	1600	9.6	143	8.0	20.5	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

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DATE	TIME	STREAM- FLO#, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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KANAWHA RIVER BASIN--Continued

03183500 - GREENBRIER RIVER AT ALDERSON, W. VA. (LAT 37 43 30 LONG 080 38 30)

OCT , 1980						
02...	1215	165	260	7.9	12.5	--
NOV						
13...	1200	125	280	8.5	8.0	--
DEC						
16...	1100	706	100	7.4	3.0	--
FEB , 1981						
11...	1700	1030	--	--	1.0	--
MAY						
13...	0850	3610	110	7.5	12.0	--
JUN						
30...	1000	396	110	7.8	23.0	--
AUG						
26...	0900	103	230	8.0	--	--

03185400 - NEW RIVER AT THURMOND, WV (LAT 37 57 18 LONG 081 04 36)

FEB , 1981						
19...	1030	8640	--	--	5.0	--
24...	1345	16600	--	--	6.0	--
MAR						
19...	1110	4330	--	--	5.0	--
JUL						
07...	1315	4620	--	--	23.0	--

03195500 - ELK RIVER AT SUTTON, W. VA. (LAT 38 39 46 LONG 080 42 34)

OCT , 1980						
16...	1340	354	60	6.4	17.5	--
DEC						
03...	0800	1780	60	6.5	5.5	--
FEB , 1981						
20...	0845	2470	55	7.1	1.5	--
APR						
02...	0830	235	65	6.3	8.5	--
JUL						
29...	0915	567	70	8.1	23.5	--
SEP						
09...	0830	85	70	7.8	21.0	--

03196500 - BIRCH RIVER AT HEROLD, W. VA. (LAT 38 34 29 LONG 080 48 04)

OCT , 1980						
16...	1100	6.1	150	7.1	12.0	--
DEC						
03...	1540	242	75	6.5	4.5	--
FEB , 1981						
18...	1345	217	60	7.0	8.5	--
APR						
01...	1840	279	80	6.5	11.0	--
MAY						
28...	1040	118	80	6.9	16.5	--
JUL						
28...	1230	18	115	8.2	27.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	ALKA- LITY FIELD (MG/L AS CAC03)
KANAWHA RIVER BASIN--Continued						
03196600	- ELK RIVER NEAR FRAMETOWN, W. VA. (LAT 38 35 34 LONG 080 53 06)					
DEC . 1980						
03...	1300	1770	70	6.5	6.0	--
FEB . 1981						
18...	1130	1910	50	7.6	5.0	--
MAR						
31...	1135	3650	65	6.9	7.0	--
MAY						
27...	1030	711	70	6.9	19.0	--
JUL						
30...	1500	1270	80	7.6	24.0	--
SEP						
11...	1130	145	75	7.5	22.0	--
03196800	- ELK RIVER AT CLAY, W. VA. (LAT 38 27 37 LONG 081 05 16)					
FEB . 1981						
17...	1500	2400	80	7.2	3.0	--
MAR						
31...	1530	3990	60	6.5	9.0	--
03198020	- TRACE FK @ RUTH WV (LAT 38 18 30 LONG 081 43 40)					
OCT . 1980						
07...	1640	.31	320	7.2	15.5	--
NOV						
25...	1500	6.3	100	6.6	8.0	--
DEC						
30...	1510	2.3	210	6.5	2.0	--
APR . 1981						
02...	0830	1.4	115	6.4	7.5	--
MAY						
26...	1010	.78	--	6.9	17.5	--
JUL						
29...	1415	.80	175	7.5	21.0	--
03198500	- BIG COAL RIVER AT ASHFORD, W. VA. (LAT 38 10 45 LONG 081 42 40)					
OCT . 1980						
09...	1520	61	540	7.9	18.0	--
MAR . 1981						
05...	1200	968	220	6.4	6.0	--
31...	1510	563	270	7.4	12.5	--
JUL						
28...	1045	116	480	7.2	27.0	--

STREAM-
 FLOW,
 INSTAN-
 TANEUS
 (CFS)
 SPE-
 CIFIC
 CON-
 DUCT-
 ANCE
 (UMHQS)
 PH
 (UNITS)
 TEMPER-
 ATURE
 (DEG C)
 OXYGEN,
 DIS-
 SOLVED
 (MG/L)

DATE TIME

KANAWHA RIVER BASIN--Continued

03199000 - LITTLE COAL RIVER AT DANVILLE, W. VA. (LAT 38 03 45 LONG 081 50 15)

OCT , 1980
 09... 1200 43 1100 8.1 16.0 --
 29... 1430 63 860 8.0 11.5 --
 DEC
 02... 1430 138 450 7.6 8.5 --
 30... 1305 130 600 7.8 3.0 --
 MAR , 1981
 04... 1600 570 310 7.7 5.0 --
 31... 1705 343 380 7.9 17.0 --
 APR
 01... 1115 329 315 7.3 13.0 --
 MAY
 04... 1235 280 350 7.9 17.0 --
 27... 1200 232 510 7.3 19.0 --
 JUL
 28... 1315 71 960 7.6 27.5 --

03199300 - ROCK CREEK NEAR DANVILLE WV (LAT 38 06 01 LONG 081 49 48)

OCT , 1980
 01... 1430 3.6 230 7.8 22.5 --
 08... 1720 .71 260 7.2 19.0 --
 29... 1130 6.5 220 7.7 10.0 --
 NOV
 24... 1240 80 95 6.7 9.5 --
 DEC
 02... 1530 9.7 150 7.7 10.0 --
 30... 1240 5.3 175 7.5 3.5 --
 JAN , 1981
 29... 1200 7.2 160 7.5 4.0 --
 MAR
 03... 1520 30 110 6.3 9.0 --
 31... 1755 6.5 130 7.5 17.0 --
 APR
 01... 1315 12 122 7.7 13.5 --
 MAY
 04... 1410 15 140 7.7 19.0 --
 27... 1540 7.3 135 7.5 18.0 --

03199320 - ROCK CREEK AT ROCK CREEK WV (LAT 38 06 05 LONG 081 50 26)

OCT , 1980
 01... 1450 -- 220 7.8 21.5 --
 29... 1140 -- 200 7.6 10.0 --
 DEC
 02... 1540 -- 140 8.6 9.0 --
 30... 1345 -- 190 7.4 3.5 --
 JAN , 1981
 29... 1150 -- 160 7.7 3.5 --
 MAR
 04... 1305 -- 130 7.1 5.0 --
 31... 1655 -- 125 7.5 18.5 --
 APR
 01... 1330 12 120 7.3 11.0 --
 MAY
 04... 1015 -- 150 7.4 12.0 --
 27... 1320 7.7 140 7.7 17.5 --
 AUG
 17... 1135 .35 -- -- --
 SEP
 15... 1125 10 -- -- 20.0 --

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPt - CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	ALKA- LITY FIELD (MG/L AS CaCO3)
KANAWHA RIVER BASIN--Continued						
03199700	- COAL RIVER AT ALUM CREEK, W. VA. (LAT 38 17 11 LONG 081 48 25)					
OCT . 1980						
01...	1245	508	400	8.0	18.5	--
29...	1620	560	440	7.7	11.5	--
DEC						
02...	1710	--	270	7.7	8.0	--
GUYANDOTTE RIVER BASIN						
03202915	- GUYANDOTTE RIVER BELOW R.D. BAILEY DAM (LAT 37 35 53 LONG 081 49 46)					
OCT . 1980						
08...	1135	73	260	--	19.5	--
NOV						
25...	1140	1000	385	7.3	9.0	--
JAN . 1981						
08...	1055	240	370	6.7	5.5	--
FEB						
24...	1220	2400	250	6.6	4.5	--
APR						
09...	0910	824	190	6.8	10.0	--
JUN						
17...	1020	843	210	7.0	17.0	--
JUL						
30...	1755	152	370	7.3	25.0	--
SEP						
25...	0915	143	400	7.3	19.5	--

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited stream-flow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream when continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements at low-flow partial-record stations during water year 1980

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurement	
					Date	Discharge (ft ³ /s)
		Monongahela River basin				
03070200	Salt Lick Creek at Rowlesburg, WV	Lat 39°21'00", long 79°39'50", Preston County, Hydrologic Unit 05020004, at timber railroad and highway bridge at Rowlesburg, and 0.2 mile upstream from mouth.	34.6	1942-69, 1973, 1975-76, 1978-81	1-20-81	11
					8-18-81	33

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1980

						Annual maximum	
Station No.	Station name	Location	Drainage area (mi ²)	Period of Record	Date	Gage height (feet)	Dis-charge (ft ³ /s)
Monongahela River basin							
03057500	Skin Creek near Browns-ville, WV	Lat 38°58'30", long 80°26'40" Lewis County, Hydrologic Unit 05020002, 2.6 miles southeast of Brownsville, 4.7 miles southeast of Weston, and at mile 3.0	25.7	1946-60*, 1961-81a	8-06-82	6.87	1,430
Guyandotte River basin							
03203000	Guyandotte River at Man, WV	Lat 37°44'30", long 81°52'45", Logan County, Hydrologic Unit 05070101, on right bank at down-stream side of highway bridge at Man, 500 feet upstream from Buffalo Creek, and 0.7 mile down-stream from Huff Creek, and at mile 93.4	762	1928-62+ 1963-81a	6-06-81	14.38	17,500

* Not detected.

* Operated as a continuous-record gaging station
a Recorder chart on file in district office.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

POTOMAC RIVER BASIN

392014078591200 - MILL CREEK NEAR BURLINGTON, WV (LAT 39 20 14 LONG 078 59 12)

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 22...	1500	1.3	385	8.4	14.0	11.6	1700	1300	48
JUL 08...	1540	2.1	378	8.5	24.0	9.4	670	18000	420
AUG 25...	1645	1.1	370	8.4	22.0	8.3	310	640	330

DATE	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AC- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 22...	180	55	10	1.9	2	.1	1.6	--	50
JUL 08...	170	51	9.7	2.4	3	.1	1.6	150	36
AUG 25...	170	53	10	1.8	2	.1	1.5	--	40

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 22...	1.8	.1	5.8	220	.30	.77	100	20	2
JUL 08...	1.9	.1	6.5	211	.29	1.2	100	<10	3
AUG 25...	1.7	.2	6.0	250	.34	.74	100	20	<10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

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POTOMAC RIVER BASIN--Continued

393014078482400 - HORSESHOE CREEK NR FT. ASHBY, WV (LAT 39 30 14 LONG 078 48 24)

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 22...	1130	.46	300	7.2	12.5	5.6	67	150	250
JUL 08...	1130	.44	305	8.0	24.0	6.2	230	620	1200
AUG 25...	1500	.15	280	7.6	23.0	6.4	100	1500	530

DATE	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AC- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)
OCT 22...	130	37	8.8	7.4	11	.3	2.6	--	36
JUL 08...	120	33	8.9	12	18	.5	3.1	105	36
AUG 25...	100	30	6.9	9.2	16	.4	2.8	--	26

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 22...	8.2	.0	5.7	179	.24	.22	200	10	10
JUL 08...	11	.1	7.8	176	.24	.21	100	<10	20
AUG 25...	8.5	.1	6.3	180	.24	.07	<100	20	10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

GRAVE CREEK BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCOCCI FECAL, KR AGAR (COLS. PER 100 ML)
395259080373701 - MIDDLE GRAVE CR AB KNOXVILLE, WV (LAT 39 52 59 LONG 080 37 37)					
JUN, 1981					
16...	0930	9.3	2100	25000	1700
JUL					
28...	0940	6.3	27000	37000	76000
AUG					
19...	1125	.12	1000	4000	4000

395318080381701 - GOSNEY RN AT MOUTH AT KNOXVILLE, WV (LAT 39 53 18 LONG 080 38 17)					
JUN, 1981					
16...	1025	2.2	1400	12000	1700
JUL					
28...	1020	1.1	7800	19000	32000
AUG					
19...	1200	.08	29000	60000	6600

395320080381001 - WHITNEY RN AT MOUTH AT KNOXVILLE, WV (LAT 39 53 20 LONG 080 38 10)					
JUN, 1981					
16...	0955	5.6	770	2800	1400
JUL					
28...	1005	6.1	8300	25000	60000
AUG					
19...	1145	.22	100	2000	1000

KANAWHA RIVER BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SFDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
380949081505401 - LITTLE HEWITT CR U/S FROM CORRIDOR G # JULIAN WV (LAT 38 09 49 LONG 081 50 54)					
FEB, 1981					
23...	1110	15	425	281	11
MAY					
19...	1030	12	410	92	3.0
19...	1200	2.4	410	71	.46

380951081510101 - LITTLE HEWITT CR D/S FROM CORRIDOR G # JULIAN WV (LAT 38 09 51 LONG 081 51 01)					
MAY, 1981					
19...	1010	12	430	138	4.5
19...	1215	2.3	430	137	.85

GROUND-WATER RECORDS

GROUND-WATER LEVELS

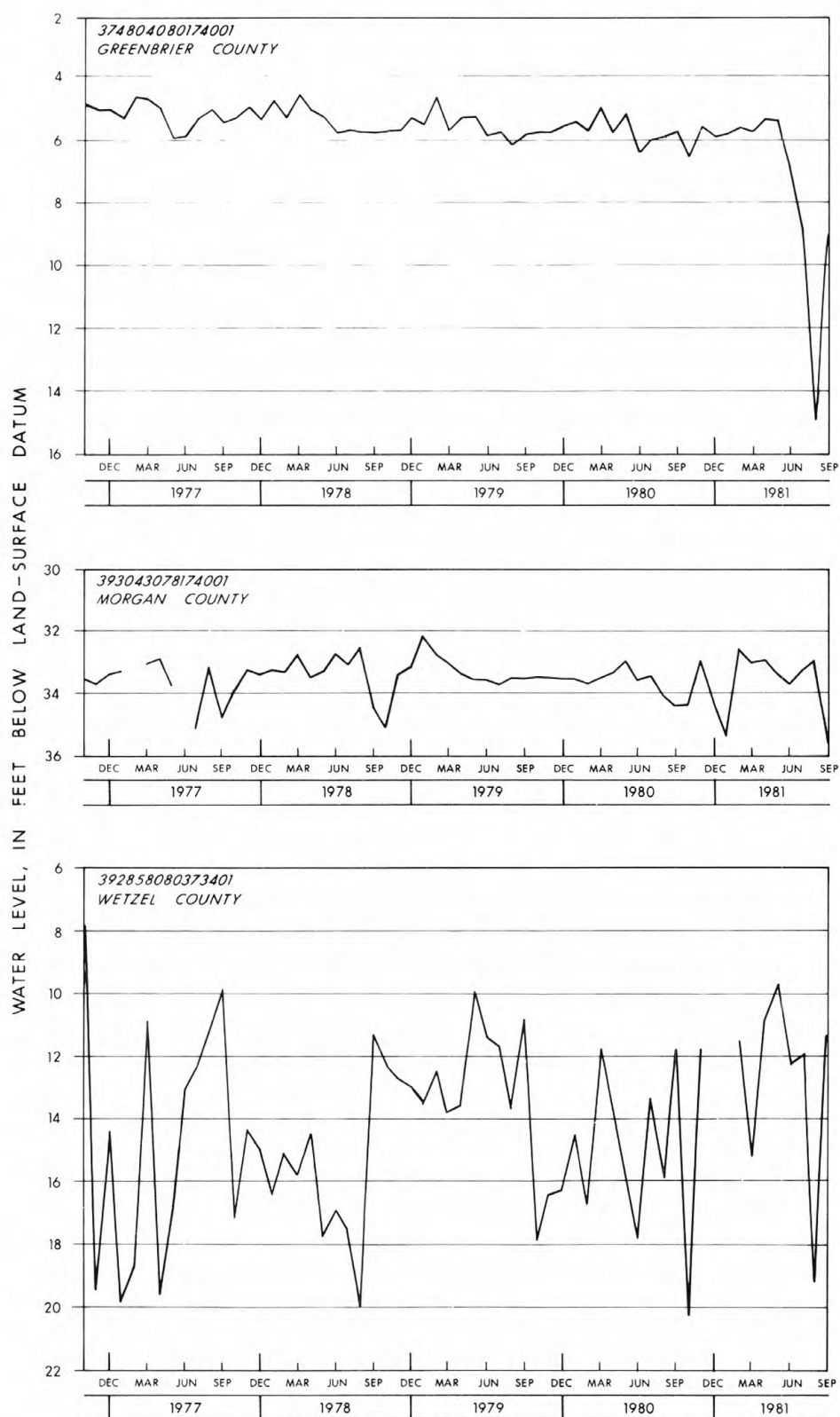


Figure 5.--End of month water levels for selected observation wells, October 1976 to September 1981.

GROUND WATER RECORDS

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GROUND WATER LEVELS

BERKELEY COUNTY

392725077582401. Local number, 20-5-7.

LOCATION.--Lat 39°27'35", long 77°58'24", Hydrologic Unit 02070004, at John Street and Porter Avenue, Martinsburg.

Owner: Martinsburg Mills, Inc.

AQUIFER.--Beekmantown Group of Lower Ordovician Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 250 ft (76.2 m), cased with steel to 10 ft (3.05 m).

DATUM.--Land-surface datum is about 445 ft (136 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top edge of recorder shelter base, 3.3 ft (1.01 m) above land-surface datum.

REMARKS.--Doubtful-or-no water-level record Nov. 25 to Dec. 4, Dec. 8-15, Feb. 24 to Mar. 16, and Apr. 12 to May 11. Records fair.

PERIOD OF RECORD.--November 1956 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.00 ft (7.01 m), estimated, below land-surface datum, June 24, 1972; lowest, 68.45 ft (20.86 m) below land-surface datum, Dec. 7, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	47.76	49.62	47.92	51.21	51.95	*46.70	49.12	*42.35	41.03	31.05	36.86	43.63
10	48.40	50.26	*48.75	51.74	52.76	*47.35	49.66	*42.20	41.01	33.50	37.94	44.41
15	48.98	50.89	49.42	52.49	51.38	*47.80	*45.65	41.34	41.30	35.17	39.40	45.55
20	49.46	48.98	50.12	53.04	50.06	48.08	*46.15	41.30	38.66	36.48	40.53	45.54
25	48.66	*47.80	50.59	53.32	*46.50	48.68	*46.00	41.74	37.78	35.44	41.76	46.94
EOM	48.90	*47.15	50.96	53.74	*46.15	48.97	*46.40	42.16	38.63	35.40	42.92	48.27

WTR YR 1981 HIGH 31.05 JUL 5 LOW 53.88 FEB 1

* Estimated.

BRAXTON COUNTY

384003080462601. Local number, 34-2-15.

LOCATION.--Lat 38°40'03", long 80°46'26", Hydrologic Unit 05050007, at Kanawha Street, Gassaway.

Owner: Claude Cunningham.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 100 ft (30.5 m), cased with steel.

DATUM.--Land-surface datum is about 1,100 ft (335 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.92 ft (0.59 m) above land-surface datum.

PERIOD OF RECORD.--August 1971 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.28 ft (22.03 m) below land-surface datum, Mar. 7, 1973; lowest measured, 74.88 ft (22.82 m) below land-surface datum, Aug. 11, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	73.72	JAN 07, 1981	73.68	APR 15, 1981	73.52	JUL 22, 1981	73.49
08	73.74	14	73.68	22	73.43	29	73.53
15	73.75	21	73.67	29	73.48	AUG 05	73.55
22	73.78	28	73.65	MAY 06	73.52	12	73.59
29	73.78	FEB 04	73.64	13	73.46	19	73.63
NOV 05	73.78	11	73.60	20	73.36	26	73.68
12	73.79	18	73.59	27	73.28	SEP 02	73.73
19	73.79	25	73.53	JUN 03	73.13	09	73.76
26	73.76	MAR 04	73.38	10	72.98	16	73.75
DEC 03	73.73	11	73.26	17	73.03	23	73.73
10	73.68	18	73.33	24	73.18	30	73.75
17	73.63	25	73.38	JUL 01	73.28		
24	73.63	APR 01	73.46	08	73.36		
31	73.66	08	73.50	15	73.43		

GROUND-WATER LEVELS

GILMER COUNTY

385604080495901. Local number, 33-3-1.

LOCATION.--Lat 38°56'04", long 80°49'59", Hydrologic Unit 05030203, at Glenville State College Campus, Glenville.

Owner: Glenville State College.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 3 ft (0.91 m), depth 25 ft (7.62 m), cased with concrete tile.

DATUM.--Land-surface datum is about 820 ft (250 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete cover at land-surface datum.

REMARKS.--West Virginia index well.

PERIOD OF RECORD.--October 1953 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.58 (414 m) below land-surface datum, Jan. 26, 1958; lowest measured, 18.75 ft (5.72 m) below land-surface datum, Nov. 30, 1953.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1980	16.97	JAN 12, 1981	16.10	APR 13, 1981	16.25	JUL 13, 1981	15.91
13	17.17	20	16.51	20	16.21	20	16.17
20	17.36	26	16.38	27	16.08	27	16.22
27	17.43	FEB 02	15.79	MAY 04	15.85	AUG 03	16.17
NOV 03	17.36	09	15.66	11	15.88	10	16.27
10	17.39	16	15.36	18	15.47	17	16.43
17	17.20	23	14.54	25	15.18	24	16.61
24	16.95	MAR 02	14.86	JUN 01	15.03	31	17.10
DEC 01	16.01	09	15.06	08	14.82	SEP 14	17.18
08	15.62	16	15.42	15	15.10	21	17.08
15	15.59	23	15.85	22	15.35	28	17.18
22	16.04	30	15.99	29	15.47		
JAN 05, 1981	16.14	APR 06	16.08	JUL 06	15.47		

GRANT COUNTY

391652079181401.

LOCATION.--Lat 39°16'52", long 79°18'14", Hydrologic Unit 02070002, about 200 ft (61.0 m) north of U.S. Route 50, about 3.5 miles (5.6 km) west of Mt. Storm.

Owner: Buffalo Coal Company.

AQUIFER.--Thin bed of coal in the Conemaugh Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 24 ft (7.32 m), cased with plastic to 23 ft (7.01 m).

DATUM.--Land-surface datum is about 2,890 ft (881 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 1.5 ft (0.46 m) above land-surface datum.

REMARKS.--Well is near active strip mine. No water-level record Feb. 10 to Mar. 31. Records fair.

PERIOD OF RECORD.--June 1978 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.33 ft (1.93 m) below land-surface datum, Mar. 11-15, 1979; lowest, 14.02 ft (4.27 m) below land-surface datum, Sept. 30, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.63	11.59	9.28	9.12	10.98	*9.65	8.22	7.35	7.12	7.53	12.49	13.59
10	10.85	11.65	8.50	9.56	*10.34	*9.65	8.21	7.39	7.15	7.95	12.92	13.50
15	11.04	11.72	8.22	9.91	*10.11	*9.59	8.07	7.56	7.20	8.59	13.00	13.54
20	11.21	11.78	8.18	10.30	*9.92	*9.44	7.43	7.70	7.24	9.17	13.19	13.45
25	11.37	11.84	8.35	10.65	*9.77	*9.27	7.34	7.71	7.29	11.98	13.38	13.73
EOM	11.50	10.05	8.85	10.92	*9.69	*8.60	7.35	7.77	7.40	12.31	13.50	14.01

WTR YR 1981 HIGH 7.12 JUN 5 AND OTHERS LOW 14.01 SEP 30

* Estimated.

GREENBRIER COUNTY

374804080174001. Local number, 45-8-2.

LOCATION.--Lat 37°48'04", long 80°17'40", Hydrologic Unit 05050003, at Fish Culture Station, U.S. Fish and Wildlife

Service Hatchery, White Sulphur Springs.

Owner: U.S. Government.

AQUIFER.--Marcellus Formation and Harrell Shale of Middle Devonian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 61 ft (18.6 m), cased with steel.

DATUM.--Land-surface datum is about 1,875 ft (572 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.9 ft (0.27 m) above land-surface datum.

PERIOD OF RECORD.--November 1953 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.80 ft (0.85 m) below land-surface datum, Mar. 16, 1955; lowest measured, 14.82 ft (4.52 m) below land-surface datum, Aug. 29, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1980	5.92	JAN 03, 1981	5.83	APR 04, 1981	5.62	JUL 04, 1981	5.98
11	6.00	10	5.90	11	5.70	11	6.02
18	6.52	17	5.95	18	4.92	18	8.30
25	6.45	24	5.92	25	5.32	25	8.82
NOV 01	8.19	31	5.82	MAY 02	5.67	AUG 01	9.40
08	8.57	FEB 07	5.70	09	5.80	08	9.15
15	9.11	14	5.60	16	5.55	15	10.51
22	6.11	21	5.21	23	5.52	22	13.20
29	5.57	28	5.60	30	5.33	29	14.82
DEC 06	5.76	MAR 07	5.45	JUN 06	5.40	SEP 05	6.35
13	5.70	14	5.75	13	5.89	12	9.18
20	5.82	21	5.85	20	6.06	19	9.25
27	5.90	28	5.68	27	6.70	24	9.25

GROUND-WATER LEVELS

489

HAMPSHIRE COUNTY

391257078404601. Local number, 23-6-46.

LOCATION.--Lat 39°12'57", long 78°40'46", Hydrologic Unit 02070003, about 4 miles (6.4 km) south of Augusta on State Route 7.

Owner: Loring Hott.

AQUIFER.--Hampshire Formation of Upper Devonian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 37 ft (11.3 m), cased with tile.

DATUM.--Land-surface datum is about 1,400 ft (427 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing at land-surface datum.

REMARKS.--No water-level record Oct. 1-20, Nov. 23 to Dec. 15, Jan. 13-26, Feb. 3 to Mar. 16, Mar. 23 to May 11, May 13 to July 7, July 14 to Aug. 24, Aug. 27, 28, 30, 31, and Sept. 2, 6, 7, 9, 16-19, 26-30. Records poor.

PERIOD OF RECORD.--February 1972 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.30 ft (0.09 m) below land-surface datum. Sept. 25, 1975; lowest, 16.69 ft (5.09 m), estimated, below land surface datum, July 15, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	13.93	---	13.22	---	---	---	---	---	---	---	13.19
10	---	14.02	---	13.35	---	---	---	---	---	12.25	---	12.16
15	---	14.22	---	---	---	---	---	---	---	---	---	12.68
20	---	14.00	12.51	---	---	10.48	---	---	---	---	---	9.16
25	13.40	---	12.73	---	---	---	---	---	---	13.32	---	11.81
EOM	13.93	---	12.94	13.66	---	---	---	---	---	---	---	---

WTR YR 1981 HIGH 3.06 FEB 2 LOW 14.39 OCT 24

HARDY COUNTY

385714078441301. Local number, 25-4-5.

LOCATION.--Lat 38°57'14", long 78°44'13", Hydrologic Unit 02070003, about 3 miles (4.8 km) east of Lost River near entrance to Trout Pond Recreation Area.

Owner: U.S. Forest Service.

AQUIFER.--Helderberg Group of Early Devonian Age and Tonoloway Formation of Late Silurian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 460 ft (140 m), cased with steel to 190 ft (57.9 m).

DATUM.--Land-surface datum is about 1,920 ft (595 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of well casing, 0.9 ft (0.27 m) above land-surface datum.

PERIOD OF RECORD.--March 1968 to November 1976 (water-level recorder), November 1976 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 263.00 ft (80.16 m), estimated, below land-surface datum, July 15, 1972; lowest, 274.15 ft (83.56 m), estimated, below land-surface datum November 6, 1970.

NOTE.--Water-level measurement Oct. 21, 1980, 267.40 ft below land-surface datum. Water-level measurement May 12, 1981, 271.60 ft below land-surface datum.

LEWIS COUNTY

390553080280802. Local number, 16-1-9.

LOCATION.--Lat 39°05'53", long 80°28'08", Hydrologic Unit 05020002, at Jackson's Mill State 4-H Camp, Jackson's Mill.

Owner: West Virginia University.

AQUIFER.--Conemaugh Group and Allegheny Formation of Upper and Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m), depth 122 ft (37.2 m), cased.

DATUM.--Land-surface datum is about 1,020 ft (311 m) National Geodetic Vertical Datum of 1929. Measuring point: Drilled hole in steel plate covering casing at land-surface datum.

REMARKS.--Water level affected by stage of West Fork River.

PERIOD OF RECORD.--May 1961 to May 1976 (weekly water-level measurements), October 1977 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.88 ft (2.71 m) below land-surface datum, Dec. 30, 1969; lowest measured, 24.80 ft (7.56 m) below land-surface datum, Oct. 6, 1977.

NOTE.--Water-level measurement Oct. 23, 1980, 23.40 ft below land-surface datum. Water-level measurement May 15, 1981, 19.40 ft below land-surface datum.

GROUND-WATER LEVELS

MARION COUNTY

393101080150501.

LOCATION.--Lat 39°31'01", long 80°15'05", Hydrologic Unit 05020003, about 1,250 ft (381 m) north of State Route 91 and 100 ft (30.5 m) west of State Route 15 in Farmington.

Owner: State of W. Va.

AQUIFER.--Open to a mine in Pittsburgh Coal, Member of Monongahela Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 266 ft (81.1 m), cased with steel to 252 ft (76.8 m).

DATUM.--Land-surface datum is about 970 ft (296 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of steel plate at land-surface datum.

REMARKS.--Well formerly used by U.S. Bureau of Mines to back fill abandoned mine with shale slurry. Water level affected by mine pumpage. No water-level record Oct. 5, 10, 15, 25, 31, Nov. 30, Dec. 20, 25, Jan. 10, 20, Apr. 5, 20, May 25, July 25, Aug. 15, and Sept. 5, 25. Some unpublished daily values also missing.

PERIOD OF RECORD.--April to December 1978 (periodic water-level measurements), December 1978 to current year (daily water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 173.45 ft (52.87 m) below land-surface datum, Sept. 7, 1981; lowest measured, 219.47 ft (66.89 m) below land-surface datum, May 12, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
DAILY WATER-LEVEL MEASUREMENTS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	*178.29	177.64	177.19	176.94	177.37	176.57	*177.05	176.67	176.16	175.05	174.34	*173.70
10	*178.10	177.95	177.34	*177.25	177.18	177.29	177.20	176.42	175.73	175.08	174.41	173.76
15	*178.15	177.69	177.53	177.14	177.32	176.73	177.48	176.38	176.02	174.94	*174.25	173.53
20	178.10	177.88	*178.40	*177.10	176.99	176.86	*176.90	176.49	175.74	174.58	174.11	173.50
25	*178.10	177.74	*177.80	176.97	177.19	177.27	176.74	*176.30	175.54	*174.65	174.04	*173.83
EOM	*178.05	*177.15	177.04	177.42	176.94	177.00	176.59	176.26	175.52	174.72	173.83	173.60

WTR YR 1981 HIGH 173.45 SEP 7 LOW 178.84 DEC 23

* Estimated.

393057080161901.

LOCATION.--Lat 39°30'57", long 80°16'19", Hydrologic Unit 05020003, on State Route 250/9, 1.2 miles (1.9 km) west of Farmington.

Owner: Richard White.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 74 ft (22.6 m), cased with steel to 6 ft (1.83 m).

DATUM.--Land-surface datum is about 1,140 ft (347 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, flush with instrument shelf 0.3 ft (0.09 m) above land-surface datum.

REMARKS.--Doubtful-or-no water-level record Jan. 7-19 and Aug. 14 to Sept. 30. Records fair.

PERIOD OF RECORD.--June to December 1977 (periodic water-level measurements), December 1977 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.89 ft (3.93 m) below land-surface datum, Jan. 26, 1978; lowest, 52.70 ft (16.06 m) below land-surface datum, Nov. 17, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 to SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	51.13	50.93	39.07	45.85	36.38	23.66	43.39	42.00	37.45	41.72	44.83	*44.00
10	51.46	51.88	23.76	*46.00	40.60	39.67	45.08	43.70	23.74	44.06	46.71	*48.00
15	51.74	52.44	40.13	*47.00	38.48	42.15	27.84	40.14	28.04	46.09	*47.70	*50.30
20	51.77	41.26	43.00	47.88	23.85	43.31	39.77	26.05	39.68	47.30	*48.50	*49.50
25	44.96	29.18	45.51	45.05	27.54	44.19	41.34	40.57	39.69	48.04	*49.10	*51.30
EOM	49.23	39.34	47.16	39.38	38.65	42.53	41.17	28.17	40.75	42.34	*49.60	*52.50

WTR YR 1981 HIGH 22.32 FEB 23 LOW 52.68 NOV 17

* Estimated.

MARSHALL COUNTY

395610080452501. Local number, 4-3-7.

LOCATION.--Lat 39°56'10", long 80°45'25", Hydrologic Unit 05030106, on U.S. Highway 250, Glendale.

Owner: Triangle PWC, Inc. (Plant Well #1).

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10 in (0.25 m), depth 98 ft (29.9 m), cased.

DATUM.--Land-surface datum is about 640 ft (195 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing at land-surface datum.

REMARKS.--Well depth 94 ft (28.7 m), Apr. 30, 1980.

PERIOD OF RECORD.--February 1977 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.53 ft (16.01 m) below land-surface datum, Aug. 27 and Sept. 2, 1980; lowest measured, 59.37 ft (18.10 m) below land-surface datum, Feb. 23, 1977.

REVISED RECORDS.--WDR WV-80-1: 1977-79 (water levels, published in error as well number 395608080452301, Marshall County).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1980	53.59	DEC 24, 1980	54.38	MAR 10, 1981	53.13	JUL 29, 1981	54.25
14	53.89	30	54.47	17	52.92	AUG 05	54.45
21	54.02	JAN 06, 1981	54.55	24	52.86	12	54.90
28	54.08	13	54.68	31	52.78	20	55.20
NOV 05	54.41	20	54.78	APR 07	52.98	SEP 03	54.40
12	54.73	27	54.81	14	54.20	10	54.47
19	55.05	FEB 03	54.86	21	53.55	16	54.43
26	54.50	10	54.77	JUL 01	53.20	23	54.30
DEC 03	54.34	17	54.36	08	53.33	30	54.39
10	54.40	24	53.60	15	53.67		
17	54.46	MAR 03	53.29	22	54.10		

GROUND-WATER LEVELS
MASON COUNTY

491

385450082064601. Local number, 38-3-53.

LOCATION.--Lat 38°54'50", long 82°06'46", Hydrologic Unit 05030202, 4 miles (6.4 km) north of Pt. Pleasant on State Route 62.

Owner: West Virginia University, Ohio Valley Agricultural Experiment Station.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 12 in (0.30 m), depth 73 ft (22.3 m), cased with steel to 61 ft (18.6 m), screened 61-73 ft (18.6 m-22.3 m).

DATUM.--Land-surface datum is about 600 ft (183 m) National Geodetic Vertical Datum of 1929. Measuring point: Edge of pump housing above hole on east side of pump, 1.4 ft (0.43 m) above land-surface datum.

PERIOD OF RECORD.--May 1958 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.60 ft (10.85 m) below land-surface datum, Apr. 27, 1979; lowest measured, 42.54 ft (12.97 m) below land-surface datum, Jan. 16, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1980	36.83	JAN 01, 1981	37.94	APR 02, 1981	38.71	JUL 02, 1981	38.97
09	36.87	08	38.07	09	38.75	09	38.95
16	36.96	15	38.10	16	38.77	16	38.99
23	37.09	22	38.24	23	38.80	23	39.04
30	37.11	29	38.35	30	38.82	30	39.05
NOV 06	37.14	FEB 05	38.42	MAY 07	38.88	AUG 06	39.07
13	37.16	12	38.51	14	38.91	13	39.11
20	37.23	19	38.53	21	38.90	20	39.14
27	37.39	26	38.58	28	38.90	27	39.17
DEC 04	37.54	MAR 05	38.60	JUN 04	39.01	SEP 03	39.22
11	37.65	12	38.56	11	39.07	10	39.25
18	37.76	19	38.54	18	39.10	17	39.40
25	37.79	26	38.65	25	39.03	24	39.47

385451082062001. Local number, 38-3-54.

LOCATION.--Lat 38°54'51", long 82°06'20", Hydrologic Unit 05030202, about 0.5 mile (0.8 km) east of intersection of State Route 62 and Secondary State Route 13.

Owner: West Virginia University, Ohio Valley Agricultural Experiment Station.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 131 ft (39.9 m), cased with steel to 60 ft (18.3 m).

DATUM.--Land-surface datum is about 615 ft (187 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft (0.91 m) above land-surface datum.

REMARKS.--No water-level record Sept. 23, 24.

PERIOD OF RECORD.--November 1959 to January 1960 (weekly water-level measurements), January 1960 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.26 ft (7.09 m) below land-surface datum, Aug. 22-25, 1980; lowest, 26.20 ft (7.99 m) below land surface datum, Jan. 1, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.68	24.00	24.12	24.30	24.36	24.24	24.24	24.26	24.20	24.14	24.40	24.62
10	23.74	24.04	24.14	24.34	24.38	24.25	24.25	24.27	24.14	24.14	24.39	24.65
15	23.83	24.08	24.18	24.36	24.40	24.26	24.30	24.23	24.11	24.15	24.47	24.70
20	23.86	24.06	24.24	24.38	24.35	24.22	24.26	24.20	24.11	24.23	24.54	24.72
25	23.90	24.07	24.27	24.39	24.31	24.27	24.22	24.24	24.12	24.30	24.60	24.78
EOM	23.96	24.08	24.27	24.46	24.32	24.26	24.24	24.23	24.15	24.32	24.64	24.80

WTR YR 1981 HIGH 23.64 OCT 1 LOW 24.80 SEP 28 AND OTHERS

GROUND-WATER LEVELS

MERCER COUNTY

372149081055001. Local number, 48-5-1.

LOCATION.--Lat 37°21'49", long 81°05'50", Hydrologic Unit 05050002, at Princeton Water Service, Company No. 1 well, Princeton.

Owner: West Virginia Service Company.

AQUIFER.--Hinton Formation of Upper Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 249 ft (75.9 m), cased.

DATUM.--Land-surface datum is about 2,387 ft (728 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing extension, 5.50 ft (1.68 m) above land-surface datum. Prior to Sept. 1975 measuring point was top of casing at land-surface datum.

REMARKS.--Water level affected by nearby pumping. Well flows at times.

PERIOD OF RECORD.--March 1960 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.0 ft (0.00 m) flowing at land-surface datum, many days since 1968; lowest measured, 90.58 ft (27.61 m) below land-surface datum, Dec. 10, 1969.

REVISED RECORDS.--WDR WV-79-1: 1977-78 (water levels).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	0.26	JAN 07, 1981	0.00	APR 15, 1981	0.00	JUL 22, 1981	0.00
08	0.06	14	0.00	22	0.00	29	0.00
15	0.00	21	0.00	28	0.00	AUG 05	0.00
22	0.00	28	0.00	MAY 06	0.00	12	0.00
29	0.00	FEB 04	0.00	13	0.00	19	0.00
NOV 05	0.00	11	0.00	20	0.00	26	0.00
12	0.00	18	0.00	27	0.00	SEP 02	0.00
20	0.00	25	0.00	JUN 03	0.00	09	1.25
27	0.00	MAR 04	0.00	10	0.00	16	1.01
DEC 03	0.00	11	0.00	17	0.00	23	1.00
10	0.00	18	0.00	24	0.00	30	0.59
17	0.00	25	0.00	JUL 01	0.00		
24	0.00	APR 01	0.00	08	0.00		
31	0.00	08	0.00	15	0.00		

MINERAL COUNTY

392114079081101. Local number, 22-5-23.

LOCATION.--Lat 39°21'14", long 79°08'11", Hydrologic Unit 02070002, 2.2 miles (3.5 km) north of U.S. Route 50 on State Route 42 at Sulphur City near Elk Garden.

Owner: Gerald Whisner.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 37 ft (11.3 m), cased with steel.

DATUM.--Land-surface datum is about 2,480 ft (756 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 0.7 ft (0.21 m) above land-surface datum.

REMARKS.--Well flows at times. Water level affected by nearby pumpage at times. Well depth 6 ft (1.8 m), Oct. 24, 1980.

PERIOD OF RECORD.--August 1968 to October 1976 (weekly water-level measurements), May 1977 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.69 ft (0.21 m) above land-surface datum, many days since 1968; lowest measured, 10.81 ft (3.29 m) below land-surface datum, Oct. 29, 1968.

NOTE.--Well observed dry Oct. 24, 1980. Water-level measurement Mar. 31, 1981, 0.33 ft below land-surface datum.

MINGO COUNTY

373554081493401.

LOCATION.--Lat 37°35'54", long 81°49'34", Hydrologic Unit 05070101, downstream of toe of R.D. Bailey Dam northeast of Justice.

Owner: U.S. Army Corps of Engineers.

AQUIFER.--New River Formation of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, 8 in (0.20 m), depth 66 ft (20.1 m), cased with steel.

DATUM.--Land-surface datum is about 920 ft (280 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, flush with top of casing, 1.0 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--March to June 1980 (periodic water-level measurements), June 1980 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.30 ft (9.54 m) below land-surface datum, June 8, 1981; lowest 39.34 ft (11.99 m) below land-surface datum, July 21, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	36.96	37.09	37.00	38.04	35.62	34.72	37.66	36.91	32.56	37.21	37.94	38.07
10	37.09	37.09	37.31	37.70	36.49	36.07	35.35	37.16	31.63	37.25	37.48	37.63
15	37.17	37.38	37.69	37.91	36.66	36.69	35.63	36.61	33.80	36.53	37.97	37.69
20	36.96	37.08	38.02	38.04	35.29	34.42	34.04	33.02	36.50	37.25	37.96	37.73
25	37.01	35.83	38.16	38.81	34.88	35.37	35.13	36.25	37.14	37.56	38.21	38.00
EOM	36.94	36.57	37.09	36.52	36.10	35.75	36.21	34.38	37.28	37.82	38.20	37.37

WTR YR 1981 HIGH 31.30 JUN 8 LOW 38.96 JUL 21

GROUND-WATER LEVELS

493

MONONGALIA COUNTY

394006080194801. Local number, 9-1-47.

LOCATION.--Lat 39°40'06", long 80°19'48", Hydrologic Unit 05020005, 1 mile (1.6 km) east of Wadestown on State Route 7.

Owner: Howard Shriver.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 65 ft (19.8 m), cased with steel.

DATUM.--Land-surface datum is about 1,060 ft (323 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.2 ft (0.37 m) above land-surface datum.

PERIOD OF RECORD.--July 1971 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.66 ft (1.73 m) below land-surface datum, Feb. 24, 1981; lowest measured, 11.35 ft (3.46 m) below land-surface datum, Aug. 6, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1980	7.06	JAN 06, 1981	6.83	APR 07, 1981	6.19	JUL 07, 1981	6.19
14	7.08	13	6.80	14	6.18	14	6.93
21	7.05	20	6.82	21	5.96	21	6.97
28	6.77	27	6.15	28	6.16	28	6.06
NOV 04	6.69	FEB 03	6.37	MAY 05	6.45	AUG 04	6.49
11	6.89	10	6.39	12	6.42	11	6.68
18	6.58	17	6.38	17	6.35	18	6.76
25	6.46	24	5.66	26	6.29	25	6.79
DEC 02	6.27	MAR 03	6.02	JUN 02	6.23	SEP 01	6.98
09	5.90	10	6.17	09	5.77	08	7.07
16	5.94	17	6.30	16	5.79	15	7.48
23	6.39	24	6.36	23	5.83	22	7.28
30	6.56	31	6.18	30	6.56	29	7.26

392923079571801. Local number, 9-7-33.

LOCATION.--Lat 39°29'23", long 79°57'18", Hydrologic Unit 05020003, 1 mile (1.6 km) northwest of Halleck on Secondary State Route 79.

Owner: Paul H. Price.

AQUIFER.--Buffalo-Mahoning Sandstone Member of Conemaugh Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 141 ft (43.0 m), cased with steel to 21 ft (6.40 m).

DATUM.--Land-surface datum is about 1,850 ft (564 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, flush with shelter floor, 0.35 ft (0.11 m) above land-surface datum.

REMARKS.--Doubtful-or-no water-level record Jan. 21-28, Feb. 24, June 29 to July 27 and Sept. 23-30. Records fair.

PERIOD OF RECORD.--March 1953 to May 1961 (monthly water-level measurements), May 1961 to May 1962 (water-level recorder), May 1962 to September 1978 (monthly water-level measurements), September 1978 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.95 ft (12.48 m) below land-surface datum, Jan. 4, 1960; lowest measured, 80.57 ft (24.56 m) below land-surface datum, Oct. 25, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	69.57	71.26	51.13	54.19	47.65	46.74	50.38	50.87	49.50	*62.40	70.77	69.06
10	69.72	72.92	47.71	62.53	50.18	49.19	51.02	52.99	47.25	*64.60	69.21	71.60
15	70.08	72.89	52.78	64.56	47.51	50.48	46.83	48.67	48.74	*64.60	70.61	70.17
20	69.96	72.36	58.28	66.31	45.83	48.41	46.13	47.21	52.61	*67.80	70.85	71.86
25	71.36	59.42	62.89	*42.20	44.58	48.81	48.88	51.74	53.19	*71.50	72.27	*74.40
EOM	72.18	60.66	49.06	50.43	46.65	49.24	49.96	52.73	*60.00	66.61	71.33	*75.10

WTR YR 1981 HIGH 41.00 JAN 23 LOW 75.10 SEP 30

* Estimated.

MONROE COUNTY

373435080323101. Local number, 47-3-3.

LOCATION.--Lat 37°34'35", long 80°32'31", Hydrologic Unit 05050002, 1.3 miles (2.1 km) south of Union on Secondary State Route 13.

Owner: Robert Riner.

AQUIFER.--Greenbrier Group of Middle Mississippian Age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in (0.15 m), depth 133 ft (40.5 m), cased with steel to 12 ft (3.66 m).

DATUM.--Land-surface datum is about 2,050 ft (625 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of sanitary seal on casing, 0.6 ft (0.18 m) above land-surface datum.

REMARKS.--Well has been affected by pumping. Well discontinued Dec. 24, 1980.

PERIOD OF RECORD.--August 1971 to December 1980 (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.60 ft (15.12 m) below land-surface datum, Mar. 1, 1972; lowest measured, 53.36 ft (16.26 m) below land-surface datum, Oct. 20, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	52.10	OCT 29, 1980	52.00	NOV 26, 1980	52.10	DEC 24, 1980	52.00
08	51.90	NOV 05	52.00	DEC 03	52.00		
15	51.80	12	52.10	10	52.10		
22	51.90	19	51.90	17	51.90		

GROUND-WATER LEVELS

MORGAN COUNTY

393043078174001. Local number, 19-5-14.

LOCATION.--Lat 39°30'43", long 78°17'40", Hydrologic Unit 02070004, on Cacapon State Park south of Berkeley Springs on U.S. Route 522.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Tonoloway Formation of Upper Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), reported depth 250 ft (76.2 m), cased with steel to 33 ft (10.1 m).

DATUM.--Land-surface datum is about 875 ft (267 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top edge of recorder shelter base, 1.1 ft (0.34 m) above land-surface datum. Prior to Aug. 16, 1977 measuring point was 1.2 ft (0.37 m) above land-surface datum.

REMARKS.--No water-level record June 16 to July 7.

PERIOD OF RECORD.--July 1971 to July 1973, November 1974 to March 1975 (weekly water-level measurements), July 1976 to August 1977 (monthly water-level measurements), August 1977 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.14 ft (8.88 m) below land-surface datum, May 21, 1980; lowest measured, 37.80 ft (11.52 m) below land-surface datum, Sept. 8, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.44	35.15	33.52	34.92	33.88	32.33	33.30	32.89	33.00	*33.70	33.82	33.23
10	35.14	35.39	33.17	35.43	33.46	32.21	33.73	33.06	33.11	33.80	33.87	33.73
15	35.44	35.71	34.11	35.28	33.61	32.91	31.50	33.01	33.58	34.06	34.34	35.08
20	35.35	32.74	34.54	35.75	30.01	32.69	32.33	33.01	*33.45	33.83	34.71	33.82
25	30.84	31.71	33.60	35.47	31.73	32.98	32.73	33.18	*33.65	33.30	34.84	35.14
EOM	34.33	32.94	34.20	35.33	32.66	32.95	32.89	33.30	*33.70	33.31	32.96	35.51

WTR YR 1981 HIGH 29.37 NOV 24 LOW 35.94 JAN 22

* Estimated.

NICHOLAS COUNTY

381301080562201. Local number, 37-5-1.

LOCATION.--Lat 38°13'01", long 80°56'22", Hydrologic Unit 05050005, on Carnifex Ferry Battlefield State Park on Secondary State Route 23.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Pottsville Group of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 106 ft (32.3 m), cased with steel.

DATUM.--Land-surface datum is about 1,620 ft (494 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of concrete slab at land-surface datum.

REMARKS.--No water-level measurements this year. Well discontinued this year because well was previously found full of mud and is difficult to measure.

PERIOD OF RECORD.--December 1970 to August 1976 (weekly water-level measurements), April 1978 to March 1980

(periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.30 ft (15.94 m) below land-surface datum, Dec. 23, 1970; lowest measured, 59.95 ft (18.27 m) below land-surface datum, Mar. 10, 1976.

POCAHONTAS COUNTY

380634080164801.

LOCATION.--Lat 38°06'53", long 80°15'53", Hydrologic Unit 05050003, on Droop Mountain State Park north of Droop on U.S. Route 219.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Mauch Chunk Group of Upper Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 86 ft (26.2 m), cased with steel.

DATUM.--Land-surface datum is about 3,000 ft (914 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 0.65 ft (0.20 m) above land-surface datum. Prior to May 28, 1980 measuring point was top of casing at land-surface datum.

PERIOD OF RECORD.--December 1970 to January 1976 (weekly water-level measurements), April 1978 to May 1980 (periodic water-level measurements), May 1980 to current year (water-level recorder). Published as local well number "44-4-1", 1973-78.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.20 ft (20.18 m) below land-surface datum, Dec. 7, 1971; lowest measured, 79.23 ft (24.15 m) below land-surface datum, Oct. 1, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	69.88	69.72	69.08	69.34	68.75	67.52	67.73	68.14	66.44	68.71	69.45	68.38
10	69.84	69.87	68.70	69.43	69.09	67.93	67.70	68.30	67.32	68.76	69.27	69.25
15	69.88	69.86	69.22	69.44	68.54	68.00	67.24	67.22	67.94	69.14	69.47	69.43
20	69.92	69.57	69.48	69.45	67.51	68.09	67.19	67.03	68.31	69.20	69.59	69.52
25	69.72	68.79	69.46	69.56	67.36	67.77	67.18	67.50	68.64	69.19	69.63	69.68
EOM	69.84	69.37	69.24	69.41	67.68	67.26	67.76	67.01	68.81	69.24	69.67	69.76

WTR YR 1981 HIGH 66.44 JUN 5 LOW 70.03 OCT 23

GROUND-WATER LEVELS
PRESTON COUNTY

495

393306079474501. Local number, 11-3-8.

LOCATION.--Lat 39°33'06", long 79°47'45", Hydrologic Unit 05020003, East Depot Street, Masontown.

Owner: G. E. Lemmons.

AQUIFER.--Pottsville Group of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 8 in (0.20 m), depth 785 ft (239 m), cased to 350 ft (107 m), perforated at or near Upper Freeport Coal.

DATUM.--Land-surface datum is about 1,770 ft (539 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of extended casing, 3.53 ft (1.08 m) above land-surface datum. Prior to July 1978 measuring point was 3.0 ft (0.91 m) below land-surface datum.

PERIOD OF RECORD.--July 1941 to July 1946 (weekly water-level measurements), July 1946 to October 1948 (water-level recorder), October 1948 to October 1950 (weekly water-level measurements), October 1950 to current year (monthly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.15 ft (2.18 m) below land-surface datum, Jan. 20, 1947; lowest measured, 108 ft (32.9 m) below land-surface datum, Feb. 3, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22, 1980	68.97	JAN 28, 1981	66.62	APR 22, 1981	65.92	JUL 27, 1981	81.22
NOV 20	66.79	FEB 25	65.85	MAY 27	66.22	AUG 24	66.26
DEC 23	66.88	MAR 23	78.37	JUN 26	71.87	SEP 23	66.17

392053079400401. Local number, 11-7-14.

LOCATION.--Lat 39°20'53", long 79°40'04", Hydrologic Unit 05020004, on left bank of Cheat River downstream from Rowlesburg Water Plant.

Owner: U.S. Army Corps of Engineers.

AQUIFER.--Chemung Group of Upper Devonian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 104 ft (31.7 m), cased with steel.

DATUM.--Land-surface datum is about 1,400 ft (427 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing under recorder shelter, 1.6 ft (0.49 m) above land-surface datum.

REMARKS.--Water level affected by stage of Cheat River. Well found plugged Aug. 28, 1978 to current year. Well discontinued because numerous attempts to unplug well have failed.

PERIOD OF RECORD.--April 1971 to January 1977 (water-level recorder), January 1977 to June 1978 (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.64 ft (1.41 m) below land-surface datum, Dec. 9, 1972; lowest, 14.84 ft (4.52 m) below land-surface datum, Aug. 16, 1975.

RALEIGH COUNTY

374607081122201. Local number, 43-3-8.

LOCATION.--Lat 37°46'07", long 81°12'22", Hydrologic Unit 05050004, near State Route 16, Mabscott.

Owner: Beckley Water Company.

AQUIFER.--New River Formation of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), depth 475 ft (145 m).

DATUM.--Land-surface datum is about 2,285 ft (696 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1 ft (0.30 m) above land-surface datum.

REMARKS.--No water-level measurements this year. Well discontinued due to well being covered by water company activities.

PERIOD OF RECORD.--August and September 1959 (weekly water-level measurements), November 1959 to July 1962 (water-level recorder), December 1962 to December 1976 (weekly water-level measurements), April 1978 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.03 ft (3.97 m) below land-surface datum, Dec. 27, 1972; lowest measured, 37.13 ft (11.32 m) below land-surface datum, Dec. 15, 1965.

RANDOLPH COUNTY

385341079575401. Local number, 18-3-110.

LOCATION.--Lat 38°53'41", long 79°57'54", Hydrologic Unit 05020001, 0.2 mi (0.32 km) east of Coalton High School, Coalton.

Owner: Presbyterian Church.

AQUIFER.--Homewood Sandstone Member of Kanawha Formation of Early Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled exploratory water-table well, diameter 6 in (0.15 m), depth 155 ft (47.2 m), cased to 18 ft (5.49 m).

DATUM.--Land-surface datum is 2,171 ft (662 m) National Geodetic Vertical Datum of 1929. Measuring point: Floor of shelter box, 2.45 ft (0.75 m) above land-surface datum.

REMARKS.--Water level affected by nearby pumping.

PERIOD OF RECORD.--December 1966 to October 1967 (monthly water-level measurements), July 1968 to January 1977 (water-level recorder), January 1977 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.85 ft (3.31 m) below land-surface datum, Dec. 12, 1966; lowest, 23.35 ft (7.12 m) below land-surface datum, Oct. 28, 1971.

NOTE.--Water-level measurement Oct. 29, 1980, 12.64 ft below land-surface datum. Water-level measurement Apr. 1, 1981, 11.74 ft below land-surface datum.

GROUND-WATER LEVELS

RANDOLPH COUNTY--Continued

385059079522901. Project number, H-62.

LOCATION.--Lat 38°50'59", long 79°52'29", Hydrologic Unit 05020001, 1,800 ft (549 m) west of U.S. Route 250 and 0.6 mile (1.0 km) north of intersection of State Route 33 and U.S. Route 250, at Beverly.

Owner: Edsel Lucas.

AQUIFER.--Shale of Upper-Middle Devonian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 96 ft (29.3 m), cased with plastic to 14 ft (4.27 m).

DATUM.--Land-surface datum is about 1,940 ft (591 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft (0.61 m) above land-surface datum.

REMARKS.--U.S. Geological Survey Test Well No. 1. Geologic log, aquifer test data, and periodic water-quality data available. Well discontinued August 26, 1980. No water-level measurements or water-quality sampling this year.

PERIOD OF RECORD.--November 1978 to August 1980 (periodic water-level measurements).

385100079522901. Project number, H-63.

LOCATION.--Lat 38°51'00", long 79°52'29", Hydrologic Unit 05020001, 1,800 ft (549 m) west of U.S. Route 250 and 0.6 mile (1.0 km) north of intersection of State Route 33 and U.S. Route 250, at Beverly.

Owner: Edsel Lucas.

AQUIFER.--Shale of Upper-Middle Devonian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 98 ft (29.9 m), cased with plastic to 14 ft (4.27 m).

DATUM.--Land-surface datum is about 1,940 ft (591 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, flush with top of casing 3.0 ft (0.91 m) above land-surface datum.

REMARKS.--U.S. Geological Survey Test Well No. 2. Geologic log and aquifer test data available. At times, water level affected by stage of Tygart Valley River. Doubtful-or-no water-level record May 17 to July 17, and July 18 to Sept. 30. Records poor.

PERIOD OF RECORD.--November 1978 to November 1979 (periodic water-level measurements), November 1979 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.37 ft (0.72 m) above land-surface datum, May 21, 1980; lowest, 2.30 ft (0.70 m) below land surface datum, July 2, 3, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	1.34	1.30	.82	1.12	.90	.56	.70	.90	*.60	*1.00	*1.46	*1.05
10	1.44	1.42	.48	1.19	1.06	.87	1.00	1.34	*.65	*1.30	*1.41	*1.07
15	1.59	1.53	.95	1.29	.83	1.09	1.08	.94	*1.07	*1.52	*1.63	*1.10
20	1.73	.86	1.11	1.32	.60	1.04	.66	*.46	*.95	*1.56	*1.69	*1.35
25	1.28	.21	1.02	1.04	.60	.78	.74	*1.18	*1.22	*1.53	*1.95	*1.64
EOM	1.07	.86	.99	1.06	.87	.83	.82	*.78	*1.10	*1.40	*2.15	*1.80

WTR YR 1981 HIGH **-.010 NOV 24 LOW 2.15 AUG 31

* Estimated.

** Water level above land-surface datum at times.

RITCHIE COUNTY

391226081024901. Local number, 28-3-3.

LOCATION.--Lat 39°12'26", long 81°02'49", Hydrologic Unit 05030203, at Stout and East South Street, Harrisville.

Owner: Terry Stonestreet.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 118 ft (36.0 m), cased with steel.

DATUM.--Land-surface datum is about 840 ft (256 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.2 ft (0.37 m) above land-surface datum.

REMARKS.--Formerly public-supply well. Doubtful-or-no water-level record Mar. 16 to May 11 and May 12 to July 7. Records poor.

PERIOD OF RECORD.--August 1966 to October 1966 (weekly water-level measurements), April 1968 to September 1975 (water-level recorder), October 1975 to July 1976 (monthly water-level measurements), July 1976 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.46 ft (5.32 m) below land-surface datum, Jan. 25, 1978, lowest measured, 21.80 ft (6.64 m) below land-surface datum, Sept. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.98	19.28	18.72	19.09	18.84	18.10	*18.70	*18.65	*18.30	*18.50	19.34	19.18
10	19.71	19.60	18.47	19.36	18.69	18.65	*18.85	*18.84	*18.40	18.80	19.42	19.23
15	19.85	19.54	18.62	19.28	18.47	18.76	*18.68	*18.35	*18.61	19.07	19.30	19.36
20	19.72	19.06	19.35	19.27	18.00	*18.82	*18.55	*18.35	*18.65	19.17	19.57	19.22
25	19.33	18.86	19.36	18.63	18.37	*18.92	*18.50	*18.79	*18.85	19.21	19.87	19.66
EOM	19.31	18.62	18.88	19.12	18.33	*18.66	*18.40	*18.30	*19.05	19.13	19.76	19.71

WTR YR 1981 HIGH 18.00 FEB 20 LOW 20.03 AUG 29

* Estimated.

GROUND-WATER LEVELS

497

TUCKER COUNTY

390135079275601. Local number, 15-6-17.

LOCATION.--Lat 39°01'35", long 79°27'56", Hydrologic Unit 05020004, at Canaan Valley State Park off W. Va. State Route 32.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Pocono Group of Lower Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m) depth 281 ft (85.6 m), cased with steel.

DATUM.--Land-surface datum is about 3,275 ft (998 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of recorder shelter base, 1.6 ft (0.49 m) above land-surface datum. Prior to May 29, 1980 measuring point was top of casing, 1.55 ft (0.47 m) above land-surface datum.

PERIOD OF RECORD.--June 1971 to December 1975 (weekly water-level measurements), April 1978 to May 1980 (periodic water-level measurements), May 1980 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.72 ft (2.05 m) below land-surface datum, June 6, 7, 1981; lowest measured, 11.54 ft (3.52 m) below land-surface datum, July 19, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.46	10.39	9.34	10.28	9.89	9.29	9.05	8.78	8.85	9.61	10.05	9.43
10	10.50	10.47	8.72	10.36	10.21	9.67	9.35	9.64	8.24	10.01	10.03	9.62
15	10.55	10.58	9.42	10.45	9.73	9.79	8.11	9.64	7.67	10.19	10.12	9.83
20	10.57	9.90	9.87	10.52	8.30	9.86	8.44	8.58	8.45	10.23	10.18	9.43
25	10.51	8.89	10.08	10.56	8.53	9.95	8.55	9.52	9.19	10.05	10.30	9.72
EOM	10.29	9.58	10.15	10.42	9.29	8.13	8.54	8.85	9.83	10.02	10.39	9.91

WTR YR 1981 HIGH 6.92 JUN 6 LOW 10.64 OCT 23 AND OTHERS

WAYNE COUNTY

375827082211501. Local number, 50-6-5.

LOCATION.--Lat 37°58'27", long 82°21'15", Hydrologic Unit 05090102, on Cabwaylingo State Forest on Secondary State Route 35.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 119 ft (36.3 m), cased with steel to 10 ft (3.05 m).

DATUM.--Land-surface datum is about 740 ft (226 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing cover, 1.33 ft (0.41 m) above land-surface datum. Prior to Nov. 27, 1979 measuring point was top of casing, 1.30 ft (0.40 m) above land-surface datum.

PERIOD OF RECORD.--May 1971 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.70 ft (8.44 m) below land-surface datum, Jan. 5 and Mar. 1, 1972; lowest measured, 30.97 ft (9.44 m) below land-surface datum, Sept. 30, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	30.37	JAN 14, 1981	29.57	APR 13, 1981	28.77	JUL 22, 1981	29.17
08	30.27	21	29.67	22	28.77	AUG 05	29.17
15	30.27	FEB 04	29.27	MAY 06	28.77	12	29.17
22	30.07	11	29.22	13	28.97	19	29.67
NOV 05	29.97	18	29.07	20	29.07	24	30.17
12	29.87	23	28.87	23	29.17	SEP 02	30.42
19	29.67	MAR 04	28.47	JUN 03	28.87	09	30.57
24	29.57	11	28.47	10	28.87	16	29.77
DEC 03	29.47	18	28.67	17	28.87	23	29.67
10	29.17	23	28.87	23	28.77	30	30.97
17	29.07	25	28.87	JUL 01	29.17		
23	28.97	APR 01	28.87	08	29.17		
JAN 07, 1981	29.47	08	28.77	15	29.17		

WEBSTER COUNTY

382254080271501. Local number, 36-3-12.

LOCATION.--Lat 38°22'59" (corrected), long 80°28'09" (corrected), Hydrologic Unit 05050005, on Secondary State Route 46/2 near Dyer.

Owner: Glen Dodrill.

AQUIFER.--Mauch Chunk Group of Upper Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 48 ft (14.6 m) (corrected), cased with steel.

DATUM.--Land-surface datum is about 2,230 ft (680 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.5 ft (0.46 m) above land-surface datum.

REMARKS.--Well affected by pumping at times. Well discontinued Apr. 22, 1981. Water-quality sample taken on June 2, 1981, water level 5.00 ft (1.52 m) below land-surface datum.

PERIOD OF RECORD.--November 1971 to April 1981 (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.70 ft (1.43 m) below land-surface datum, July 5, 1972; lowest measured, 7.80 ft (2.38 m) below land-surface datum, June 16, 1976.

CORRECTIONS.--Well depth and location latitude-longitude where published in WRD W. Va. 1973-80 are incorrect.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	7.70	NOV 26, 1980	5.65	JAN 21, 1981	6.10	MAR 18, 1981	5.75
08	7.75	DEC 03	6.50	28	6.00	25	5.50
15	7.65	10	6.40	FEB 04	6.10	APR 01	5.60
22	7.70	17	6.45	11	5.70	08	6.10
29	7.50	24	6.10	18	5.00	15	5.95
NOV 05	6.90	31	6.05	25	5.50	22	6.10
12	6.75	JAN 07, 1981	6.00	MAR 04	5.85		
19	6.70	14	6.05	11	6.00		

GROUND-WATER LEVELS

WEBSTER COUNTY--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
JUN 02...	1715	48.0	185	6.3	12.0	37	0	9.5	3.2
DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	PERCENT SODIUM	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 02...	9.5	0.7	35	1.1	53	52	4.3	22	<0.1
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN 02...	9.0	94	90	<0.010	0.11	0.140	100	16000	500

WETZEL COUNTY

392858080373401. Local number, 6-6-8.

LOCATION.--Lat 39°28'58", long 80°37'34", Hydrologic Unit 05030201, on Secondary State Route 82 in Lewis Wetzel Public Hunting Area near Jacksonburg.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m) depth 76 ft (23.2 m), cased with steel.

DATUM.--Land-surface datum is about 890 ft (271 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.1 ft (0.34 m) above land-surface datum.

PERIOD OF RECORD.--September 1971 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft (1.86 m) below land-surface datum, Nov. 28, 1973; lowest measured, 20.90 ft (6.37 m) below land-surface datum, Oct. 5, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	11.50	FEB 12, 1981	15.20	APR 29, 1981	10.90	JUL 22, 1981	10.20
07	11.30	18	17.90	MAY 06	13.80	29	11.90
15	12.10	25	11.50	13	17.10	AUG 05	18.70
22	14.40	MAR 04	13.90	20	12.80	12	16.40
29	20.20	11	10.80	27	9.60	19	19.10
NOV 05	20.30	18	15.00	JUN 03	11.70	26	19.10
12	12.30	25	14.90	10	10.90	SEP 02	17.10
19	12.20	APR 01	10.80	17	12.10	09	17.70
26	11.80	08	14.30	JUL 01	14.30	16	19.10
DEC 03	12.80	15	15.30	08	17.30	23	11.80
10	18.90	22	18.70	15	18.60	30	11.30

GROUND-WATER LEVELS
WOOD COUNTY--Continued

499

391712081333201. Local number, 27-3-22.

LOCATION.--Lat 39°17'12", long 81°33'32", Hydrologic Unit 05030202, near collector well at City of Parkersburg Water Works.

Owner: City of Parkersburg.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 55 ft (16.8 m), cased with steel to 55 ft (16.8 m).

DATUM.--Land-surface datum is about 601 ft (183 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.94 ft (0.90 m) above land-surface datum.

REMARKS.--No water-level record Oct. 1-20. Records fair. Water level affected by local pumping and by stage of the Ohio River. Well dewatered during August and September 1980 due to construction. Well discontinued November 21, 1980.

PERIOD OF RECORD.--April 1943 to April 1945 (various intermittent water-level measurements), January 1946 to November 1980 (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.06 ft (4.90 m), estimated, below land-surface datum, Feb. 23, 1971; lowest, 37.75 ft (11.51 m) below land-surface datum, Feb. 12, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	32.42										
10	---	32.42										
15	---	32.48										
20	*31.72	32.54										
25	31.75	---										
EOM	32.12	---										

WTR YR 1981 HIGH 31.63 OCT 30 LOW 32.57 NOV 19

*Estimated.

WYOMING COUNTY

373839081255201. Local number, 54-2-12.

LOCATION.--Lat 37°38'39", long 81°25'52", Hydrologic Unit 05070101, at Twin Falls State Park.

Owner: U. S. Geological Survey.

AQUIFER.--New River Formation of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 80 ft (24.4 m), cased with steel to 28 ft (8.53 m).

DATUM.--Land-surface datum is about 2,015 ft (615 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelter floor, 2.62 ft (0.80 m) above land-surface datum.

REMARKS.--Aquifer test data available. Water-level record affected by nearby pumping at times. Doubtful water-level record May 7 to Sept. 30 because float and counter weight were reversed on the recorder. Records fair.

PERIOD OF RECORD.--December 1976 to February 1977 (periodic water-level measurements), February 1977 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.19 ft (5.85 m) below land-surface datum, Mar. 13, 1980; lowest, 41.12 ft (12.53 m) below land-surface datum, Nov. 14, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	28.96	31.40	25.31	22.92	21.27	20.53	20.18	21.58	*21.27	*24.09	*27.99	*32.38
10	29.47	31.15	24.19	22.38	21.02	21.48	20.47	*21.75	*21.30	*23.88	*28.29	*32.12
15	30.99	31.71	23.41	21.96	21.24	21.02	21.33	*26.80	*22.26	*25.01	*28.00	*32.23
20	32.26	30.52	23.50	21.81	20.27	20.54	20.22	*23.30	*22.15	*24.77	*28.49	*32.06
25	31.63	28.34	23.13	21.58	20.31	20.77	20.44	*22.66	*26.01	*25.45	*31.55	*35.47
EOM	31.64	26.65	22.55	21.62	21.06	20.42	20.36	*22.10	*25.08	*26.51	*34.23	*33.71

WTR YR 1981 HIGH 20.05 MAR 30 LOW 35.65 AUG 28

* Estimated.

QUALITY OF GROUND WATER
ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
UPSHUR COUNTY

DATE	TIME	SPH- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)
385420080162001 - CUNNINGHAM WELL (LAT 38 54 20 LONG 080 16 20)												
SEP , 1980	04... 1200	600	7.2	16.5	120	37	6.5	67	190	45	23	--
385428080161801 - MILLER TOWN WELL (LAT 38 54 28 LONG 080 16 18)												
SEP , 1980	04... 1130	650	7.1	12.0	34	10	1.9	140	230	18	53	8.6
385443080163101 - MILLER-TODD MINE (LAT 38 54 43 LONG 080 16 31)												
SEP , 1980	04... 1400	530	6.6	12.5	120	30	10	57	85	130	10	9.1
385453080154001 - MINEAR 72 FT WELL (LAT 38 54 53 LONG 080 15 40)												
SEP , 1980	02... 1715	340	5.8	12.0	82	23	5.8	23	75	71	3.2	12
385454080152801 - MINEAR MINE AT HIGH WALL (LAT 38 54 54 LONG 080 15 28)												
SEP , 1980	03... 1430	320	4.5	11.5	81	19	8.0	1.6	0	110	1.0	14
385505080155201 - MINEAR MINE SUMP WELL (LAT 38 55 05 LONG 080 15 52)												
SEP , 1980	03... 1130	630	6.6	11.5	130	37	8.1	87	210	94	10	10
385555080172401 - BUCKHANNON RIVER MINE WELL (LAT 38 55 55 LONG 080 17 24)												
FEB , 1981	03... 1340	390	7.2	13.5	69	20	4.3	67	--	--	--	8.5
	03... 1430	370	7.3	12.0	72	21	4.4	66	130	--	--	8.6

QUALITY OF GROUND WATER

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ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

UPSHUR COUNTY

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM, DIS- SOLVED (UG/L AS CD)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)
385420080162001 - CUNNINGHAM WELL (LAT 38 54 20 LONG 090 16 20)												
SEP . 1980 04...	320	--	--	90	70	20	--	30	10	20	--	--
385428080161801 - MILLER TOWN WELL (LAT 38 54 28 LONG 080 16 18)												
SEP . 1980 04...	364	740	1	50	50	0	8	10	0	10	230	0
385443080163101 - MILLER-TODD MINE (LAT 38 54 43 LONG 080 16 31)												
SEP . 1980 04...	316	40	2	120	120	0	16	40	0	40	330	17
385453080154001 - MINEAR 72 FT WELL (LAT 38 54 53 LONG 080 15 40)												
SEP . 1980 02...	202	90	3	7700	1000	6700	6	390	0	450	200	47
385454080152801 - MINEAR MINE AT HIGH WALL (LAT 38 54 54 LONG 080 15 28)												
SEP . 1980 03...	200	40	4	19000	19000	18	16	600	0	650	180	74
385505080155201 - MINEAR MINE SUMP WELL (LAT 38 55 05 LONG 080 15 52)												
SEP . 1980 03...	382	100	2	3400	0	3500	13	280	0	330	510	11
385555080172401 - BUCKHANNON RIVER MINE WELL (LAT 38 55 55 LONG 080 17 24)												
FEB . 1981 03...	--	490	<1	--	--	<3	<4	--	--	<1	580	14
03...	--	500	<1	--	--	<3	<4	--	--	<1	580	18

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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